

General Catalogue 2013

TV Reception



FAGOR 
Fagor Electrónica

**GENERAL
CATALOGUE**
2013 • 2014



Fagor Electrónica



general index

General Catalogue 2013 • 2014

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signal reception



A complete range of products
to ensure optimum reception
of terrestrial and satellite TV
broadcasts, including antennas,
satellite dishes, converters, ...

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ANF BIII Series

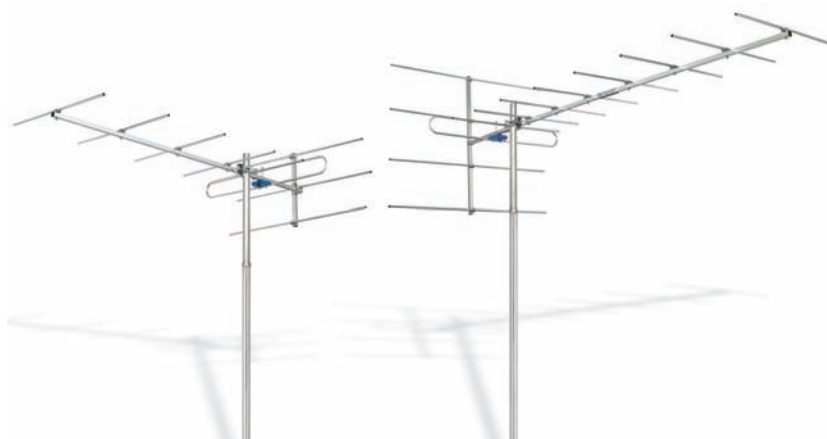
6, 9 and 13 elements BIII antennas.

APPLICATION

Terrestrial TV installations, community and individual.

CHARACTERISTICS

- Robust, strong antenna, made of aluminium.
- Waterproof connection box.
- F connectors.
- Quick installation.



ANF BIII9

ANF BIII13

MODEL	ANF BIII	ANF BIII9	ANF BIII13
Reference	80021	80027	80028
Channels	E05 ... E12		
Nbr. of elements	6	9	13
Gain	7,5	10	12
Impedance	75		
Front-to-back ratio	18	22	30
Length	1220	1536	2074
Units per package	10	1 / 10	1 / 6
Dimensions of packaging	1330 x 240 x 220	950 x 120 x 70 965 x 370 x 260	1400 x 130 x 70 1425 x 270 x 230
Weight	10,5	1,5 / 16	2 / 12,8

ANF RADIO Series

Terrestrial antennas for analogue and digital DAB radio.

APPLICATION

Community and individual installations of digital and analogue radio reception.

CHARACTERISTICS

- Made of aluminium.
- Waterproof connection box.
- F connectors.
- Quick installation.
- Omnidirectional.
- ANF DAB: Antenna for digital radio reception.



ANF FM

ANF FMS

ANF DAB

MODEL	ANF FM	ANF FMS	ANF DAB
Reference	80024	80025	80026
Frequency range	87,5 ÷ 108		193 ÷ 230
Gain	0		
Impedance	75		
Polarization	H	H/V	V
Packing dimensions (10 u.)	490 x 220 x 600	650 x 280 x 320	800 x 200 x 250
Weight (10 u.)	7,2	6,8	6,1

rhombus Series

OPTIMISED DIGITAL TV LTE & HDTV ANTENNA with high gain and excellent mechanical resistance.

APPLICATION

Digital and analog TV reception for community and individual antenna installations, totally adapted to the LTE environment.

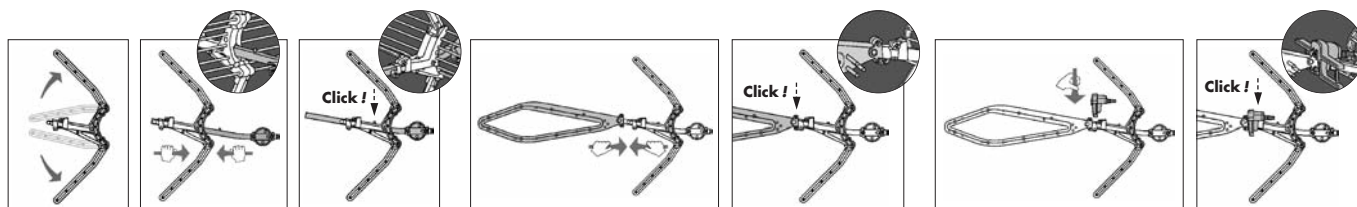
CHARACTERISTICS

- Modern, optimised design to achieve optimum gain/size ratio.
- Active/passive dipole.
- Self-adapting: provides a constant, balanced signal, minimising loss and maximising adaptation.
- Lightweight and robust, designed with state-of-the-art technology to guarantee an excellent response and a long lifetime.
- High quality plastic with special UV protection.
- Easy installation, in just 3 clicks, no tools needed.
- Compact, small-sized single-unit packing.
- Simple, ergonomic mast fixing system to guarantee secure mounting.

Supply voltage	12 ÷ 24 Vdc
Current drawn	45 mA
Operating temperature range	-20 ÷ 60° C

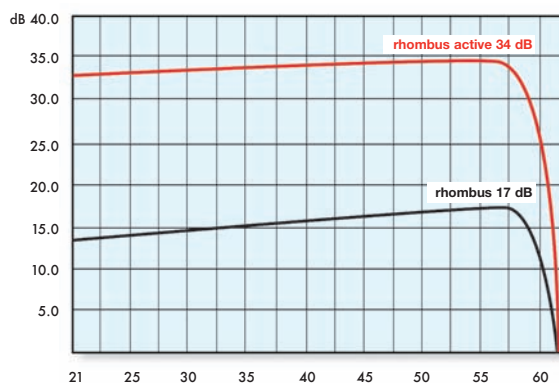


SIGNAL
RECEPTION



MODEL		rhombus	rhombus 5
Reference		84390	84391
Channels		21-60	
Gain	dB	17 (34 active)	
Impedance	Ω	75	
Return losses	dB	>10	
Back-to-front ratio	dB	24	
Horizontal opening angle at -3dB	$^\circ$	36	
Length	mm	980	
Windload	130 km/h 160 km/h	65 92	
Units per package		1	5
Package dimensions	mm	600 x 375 x 170	600 x 400 x 690
Weight	Kg	2,15	10

GAIN RESPONSE



ACTIVE/PASSIVE
DIPOLE- 100%
SEALED



SELF-ADAPTING



LTE MAXIMUM
PROTECTION



HIGH
RESISTANCE



EASY
INSTALLATION



COMPACT
SINGLE-UNIT
PACKAGING



LIGHTWEIGHT,
BUT ROBUST



NEW MAST
FIXING SYSTEM

Di@na Series

SIGNAL
RECEPTION

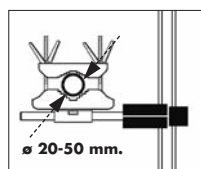
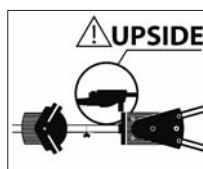
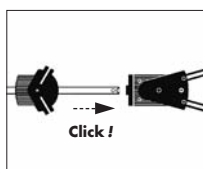
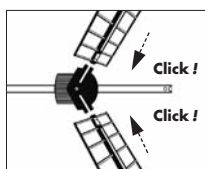
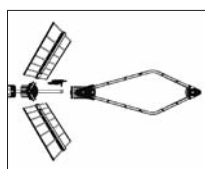
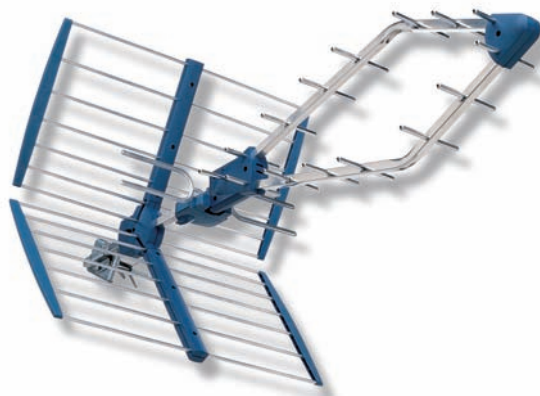
Di@na is a carefully designed antenna, which construction cares even the smallest details, maintaining the symmetry in all components that minimizes internal reflections and maximize performance.

APPLICATION

Digital and analogue TV reception.

CHARACTERISTICS

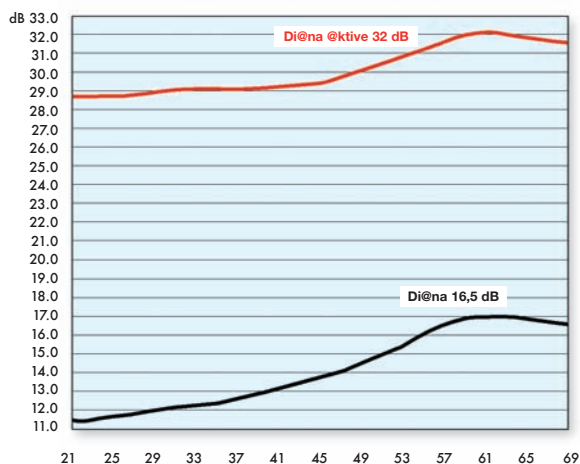
- Pre-assembled for easy set-up.
- The reflector and dipole have been designed for a higher front-to-back ratio.
- Long-life antenna due to its aluminium and ABS plastic construction.
- Ergonomic design for a tool-free installation.
- Suitable for horizontally or vertically polarised channels, maintaining its water-proofing in any position.
- It has an "F" connector with protection cover.
- In case of low coverage areas, the **Di@na @ktive** model incorporates a dipole that improves the reception margin in the installation.



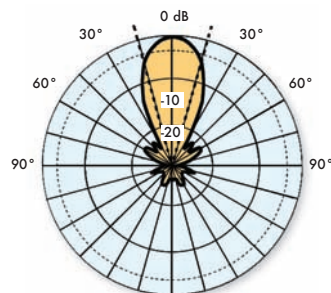
Supply voltage	12 ÷ 24 Vdc
Current drawn	25 mA

MODEL		Di@na	Di@na 6U	Di@na @ktive	Di@na @ktive 6U
Reference		84375	84377	84387	84386
Channels		21 ... 69			
Gain	dB	16,5		32	
Impedance	Ω	75			
Return losses	dB	15			
Horizontal opening angle at -3dB	°	33			
Length	mm	1.128			
Windload	130 km/h 160 km/h	N	71 98		
Units per package		1	6	1	6
Packing Dimensions		740 x 330 x 180	760 x 340 x 660	740 x 330 x 180	760 x 340 x 660
Weight	Kg	2	12	2	12

GAIN RESPONSE



HORIZONTAL OPENING DIAGRAM



Di@na X-trem Series

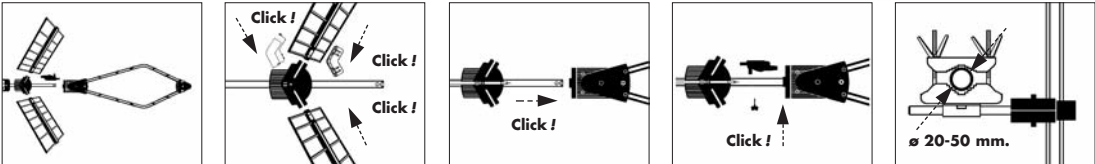
Rhombus shape antenna that offers maximum gain (18,5 dBi). Solves the DTT reception problems in overlapping coverage areas.

APPLICATION

Digital TV reception.

CHARACTERISTICS

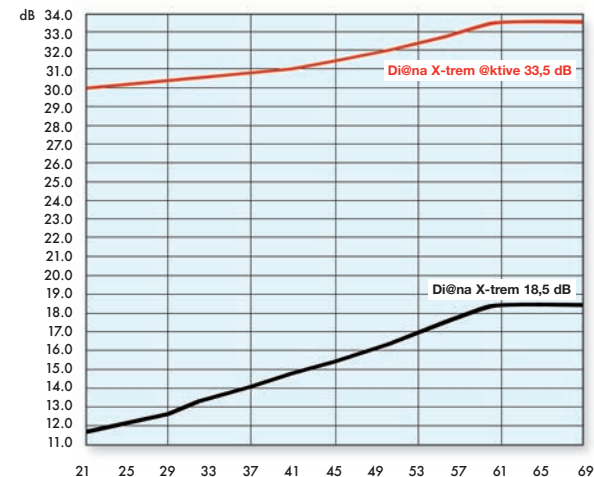
- Pre-assembled for easy set-up.
- The reflector and dipole have been designed for a higher front-to-back ratio.
- Long-life antenna due to its aluminium and ABS plastic construction.
- Ergonomic design for a tool-free installation.
- Suitable for horizontally or vertically polarised channels, maintaining its waterproofing in any position.
- It has an "F" connector with protection cover.



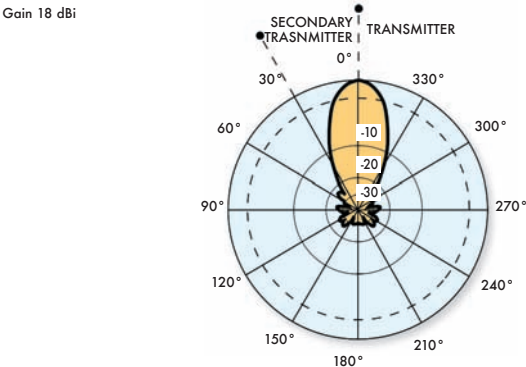
MODEL		Di@na X-trem
Reference		34388
Channels		21 ... 69
Gain	dB	18,5 (34 with @ktive dipole)
Impedance	Ω	75
Return losses	dB	15
Horizontal opening angle at -3 dB	$^{\circ}$	22
Length	mm	1.190
Windload	130 km/h 160 km/h	122 153
Units per package		1
Packing Dimensions	mm	1000 x 480 x 160
Weight	Kg	2,5

* Improves the factor of merit in low signal areas.

GAIN RESPONSE

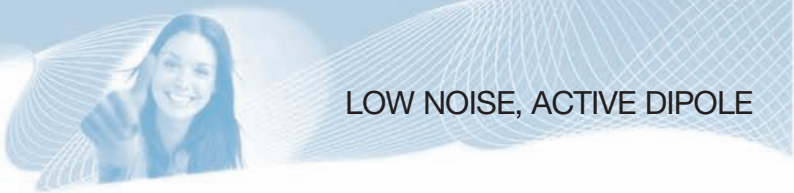


RADIATION DIAGRAM





SIGNAL
RECEPTION



@ktive

SIGNAL
RECEPTION

DESCRIPTION

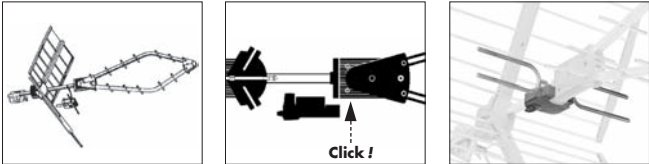
UHF Preamplifier designed for TV reception in weak signal areas.

CHARACTERISTICS

- Low noise figure
- Protected against electric discharge
- High output level
- Designed with SMD technology
- Embedded shielding by design
- Excellent adaptation to input and output impedance
- Especially designed for Di@na antenna



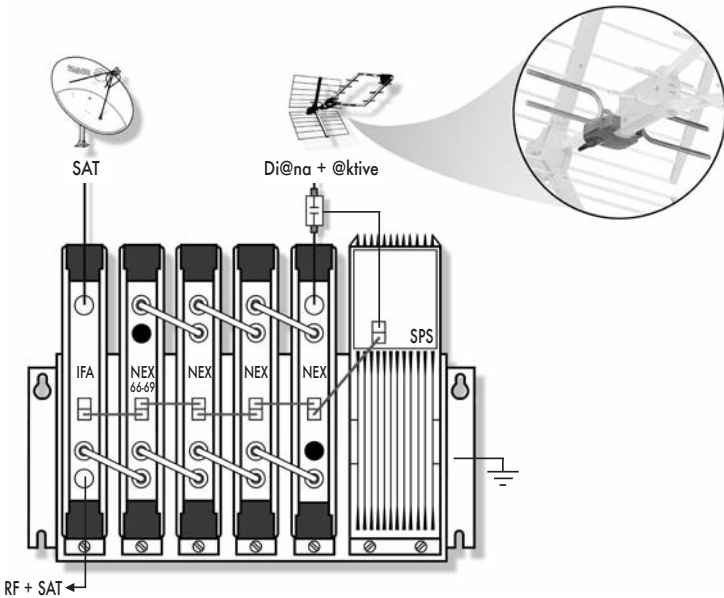
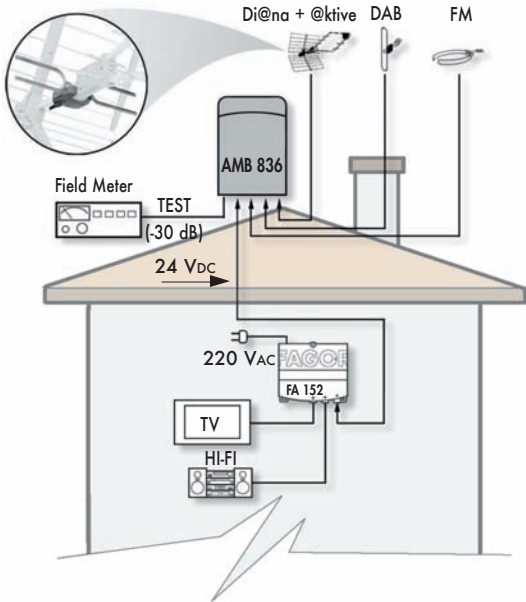
DI@NA ANTENA + @ktive



Supply voltage	12 ÷ 24 Vdc
Current drawn	25 mA
Operating temperature range	-20 ÷ 60° C

MODEL		@ktive
Reference		84385
Band covered	MHz	470 ÷ 862
Minimum input level for S/N = 30 dB, analogue TV	dBµV	34
Minimum input level for S/N = 19 dB, digital TV	dBµV	23,5
Input impedance	Ω	300
Maximum output level DIN 45004B (-60 dB)	dBµV	102
Output impedance	Ω	75
Output connector		F (f)
Gain	dB	18 (470 MHz) / 15 (862 MHz)
Noise figure	dB	2
Packing dimensions	mm	424 x 200 x 92
Weight	Kg	0,250

APPLICATION EXAMPLES



Digit Series

UHF antenna which offers high gain and great mechanical resistance.

APPLICATION

Digital and analogue TV reception.

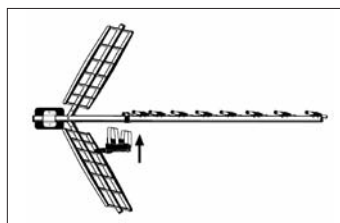
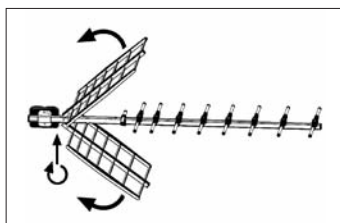
CHARACTERISTICS

- Compact and resistant with strong, undeformable clip.
- It has stud bolts to avoid being lost or dropped during assembly operations.
- Immune to most interference generated by different sources.
- It has an F connector which gives it high shielding.
- Digit 25 F D: Designed for the digital dividend.

- DIGIT 45, DIGIT 75: The aluminium reflectors are supplied pre-assembled to make their installation easier, with no need for tools.

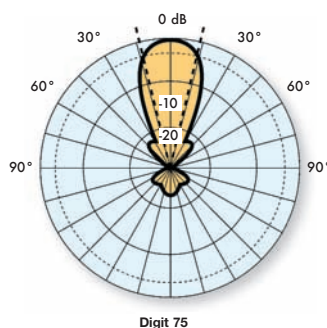
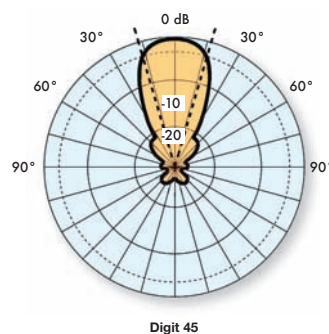
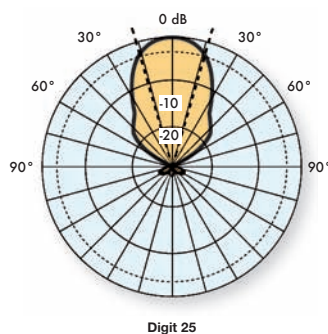


SIGNAL
RECEPTION

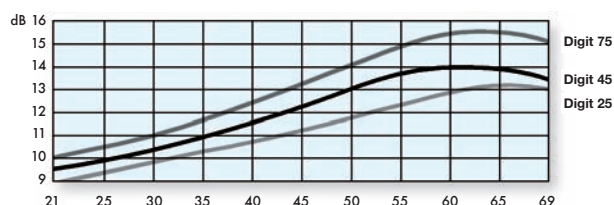


MODEL	Digit 25 F	Digit 25 F D 	Digit 45	Digit 45 6 u	Digit 75	
Reference	84384	84389	84380	84381	84382	
Channels	21 ... 69	21 ... 60	21 ... 69			
Gain	dB	13		14	15,5	
Impedance	Ω	75				
Return losses	dB	10				
Front-to-back ratio	dB	24		25		
Horizontal opening angle at -3 dB	°	36		35	32	
Length	mm	1006		1045	1350	
Windload	130 km/h 150 km/h	N	65 92	70 97	80 125	
Units per package		6		1	6	1
Packing dimensions	mm	570 x 380 x 85	585 x 390 x 530	1080 x 480 x 100	1080 x 480 x 400	1370 x 460 x 95
Weight	Kg	1,58	10,7	1,9	12	2,2

HORIZONTAL OPENING DIAGRAM



GAIN RESPONSE



NOMAD Series

Antenna for digital terrestrial TV reception.

APPLICATION

Suitable for signal reception in individual systems. Its lightness, ease of assembly and strength also make it suitable as a portable antenna (in caravans or similar).

CHARACTERISTICS

- Incorporates a shielded low noise figure preamplifier and high output level.
- Multiband amplification (FM / BIII-DAB / UHF).
- Compatible with HDTV.
- Waterproof and UV resistant plastic housing.
- Easy to assemble without tools.
- Low visual impact.
- Compact and light packaging.



MODEL		NOMAD
Reference		84352
Band coverage		FM / BIII / UHF
Output frequency	MHz	88-108 / 174-230 / 470-862
Gain	dB	21 / 27 / 30
Max. output level	dBμV	105*
Output impedance	Ω	75
Noise figure	dB	3
Power supply	Vdc	12
Consumption	mA	50
Packing dimensions	mm	350 x 90 x 350
Operating temperature range	°C	-20 ÷ 60
Weight	Kg	1,4

* (DIN 45004 B (-60dB)).

Min@

Series

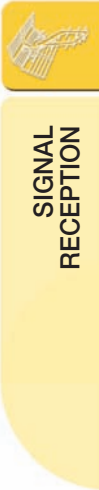
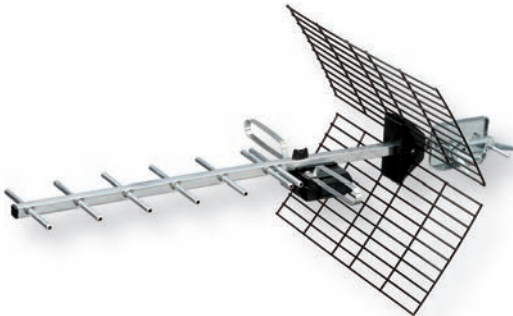
Compact UHF antenna. Supplied in common packaging with individual protection bag.

APPLICATION

Suitable for signal reception in individual and community installations.

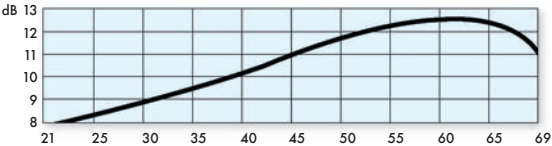
CHARACTERISTICS

- Easy to assemble, just a click to put the directors and dipole into place.
- Suitable for horizontally or vertically polarised channels, maintaining its water resistant feature.

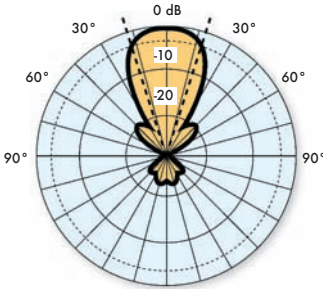


MODEL		Min@
Reference		84372
Channels		21 ... 69
Gain	dB	12,5
Impedance	Ω	75
Return losses	dB	15
Front-to-back ratio	dB	25
Horizontal opening angle	°	40
Length	mm	750
Windload	130 km/h	54
	150 km/h	74
Units per package		10
Packing dimensions (10 u.)	mm	770 x 220 x 700
Weight (10 u.)	Kg	14,5

GAIN RESPONSE



HORIZONTAL OPENING DIAGRAM



DISHES

Satellite dishes manufactured of electro zinc-coated steel with a polyester coating ensuring high level of resistance to weather conditions.

APPLICATION

Suitable for community and individual Satellite TV installations. Available a wide range of diameters according to the size of the installation.

CHARACTERISTICS

- The parabolic reflectors are designed to achieve high gain.
- Pole or wall mounting.



MODEL		PO 064	PO 081	DPO 105*
Reference		86064	86081	86105
Diameter	cm	51 x 57	73 x 80	91 x 100
Focal distance	cm	32,7	46,8	58,3
Type of reflector		Offset		
Material		Electro zinc-coated steel		
Coating		Polyester		
Type of fixing		Floor / Wall / Pole		Mast
Mast diameter	mm	30 ÷ 60	30 ÷ 60	30 ÷ 60
Elevation	°	17 ÷ 55	17 ÷ 55	- 5 ÷ 82
Offset angle	°	19		
Azimuth	°	180		
LNB fixing Ø	mm	25 ÷ 40		
Frequency range	GHz	10 ÷ 12,75		
Gain (11,7 GHz)	dB	35	38	39,2
Efficiency	%	>60		
Beam width (- 3 dB)	°	2,8	2,4	2,1
F/D relation		0,64		
Wind speed		Operating: up to 100 km/h Maximum: up to 130 km/h		
Packing dimensions	mm	610 x 610 x 110	830 x 840 x 120	1020 x 1000 x 120
Weight	Kg	5	9	10

* Pole not included. See accessories.

SATELLITE DISH + LNB Kits

Kits composed of Offset satellite dishes manufactured of eletro-zinc coated steel with a polyester coating and LNB converters.

APPLICATION

Suitable for community and individual satellite TV installations.

CHARACTERISTICS

- The parabolic reflectors are designed to achieve high gain, guaranteeing great strength and mechanical resistance.
- Easy fitting system.
- Universal LNB: low noise figure and high gain.



SIGNAL
RECEPTION

MODEL		KIT PO 064	KIT PO 081
Reference		86164	86181
Packing dimensions (4 u.)	mm	630 x 605 x 113	850 x 844 x 125
Weight (4 U.)	Kg	14,7	17
SATELLITE DISH			
Diameter	cm	60 x 65	73 x 79
Focal distance	cm	32,7	53
Type of reflector		Offset	
Material		Electro zinc-coated steel	
Coating		Polyester	
Mast diameter	mm	30 ÷ 60	
Elevation		10° ÷ 90°	
Offset angle		28°	26°
Azimuth		360°	
Frequency	GHz	10,7 ÷ 12,75	
Gain @10,7 GHz	dBi	35,2	35.9
Gain @11,7 GHz	dBi	36,1	37.4
Gain @12,7 GHz	dBi	37	38.0
Efficiency	%	> 70	
F/D relation		0,64	
Wind speed		Operating: up to 130 Km/h Maximum: up to 150 Km/h	
Universal LNB			
Number of inputs		1	
Polarity		VL, HL, VH, HH	
Input frequency	GHz	Low Band 10,7 ÷ 11,7 High Band 11,7 ÷ 12,75	
Oscillator frequency	GHz	Low Band 9,75 High Band 10,60	
Output frequency range	MHz	Low Band 950 ÷ 1950 High Band 1100 ÷ 2150	
Noise figure at 20° C	dB	0,2	
Conversion gain	dB	50 ÷ 65 (typical 55)	
Output level (1 dB of compression)	dB	> 0 (typical 5)	
Power supply	V	11,5 ÷ 14 (V); 16 ÷ 19 (H)	
22 KHz tone		0,6 Vpp ± 0,2 for High band	
Consumption	mA	< 200	
Output connectors		F (f)	
Operating temperature range	°C	– 25 ÷ + 60	

LNB Series

Universal low noise block converters suitable for any offset satellite dish.

CHARACTERISTICS

- Stand out for their low noise figure and high gain which together with Offset type satellite dishes make it possible to obtain merit factors ideal for collective installations.
- Big Cross Polarity Rejection: 25 dB.



MODEL		LNB 201 Universal	LNB 222 TWIN	LNB 244 QUAD	LNB 248 Octo
Reference		86129	86132	86134	86138
Number of inputs		1	2	4	8
Polarity		VL, HL, VH, HH			
Input frequency	GHz	Low band 10,7 ÷ 11,7 High band 11,7 ÷ 12,75			
Oscillator frequency	GHz	Low band 9,75 ± 2 MHz High band 10,60 ± 2 MHz			
Output frequency range	MHz	Low band 950 ÷ 1950 High band 1100 ÷ 2150			
Noise figure at 20° C	dB	0,2			
Cross polarity rejection	dB	25			25
Conversion gain	dB	50 ÷ 65 (typical 58)			
Output level (1 dB of compression)	dBm	>0			
Power supply	V	11,5 ÷ 14 (V); 16 ÷ 19 (H)			11,5 ÷ 19
22 KHz tone		0,6 Vpp ± 0,2 for High band			—
Consumption	mA	<200	<300		<200
Output connectors		F (f)			
Operating temperature range	°C	– 25 ÷ + 60			
Packing dimensions	mm	85 x 110 x 60	100 x 125 x 60	120 x 125 x 65	90 x 110 x 130
Weight	Kg	0,110	0,190	0,235	0,315

MODEL		LNB 281 Monoblock Single	LNB 182 Monoblock TWIN	LNB 184 Monoblock QUAD	LNB 204 Quattro			
Reference		86135	86136	86137	86131			
Number of inputs		1	2	4				
Polarity		VL, HL, VH, HH Astra - Hotbird separate 6°			VL	HL	VH	HH
Input frequency	GHz	Low band 10,7 ÷ 11,7 High band 11,7 ÷ 12,75						
Oscillator frequency	GHz	Low band 9,75 ± 2 MHz High band 10,60 ± 2 MHz						
Output frequency range	MHz	Low band 950 ÷ 1950 High band 1100 ÷ 2150						
Noise figure at 20° C	dB	0,2						
Cross polarity rejection	dB	25			—			
Conversion gain	dB	50 ÷ 65 (typical 58)						
Output level (1 dB of compression)	dBm	>0						
Power supply	V	11,5 ÷ 14 (V); 16 ÷ 19 (H)			11,5 ÷ 19			
22 KHz tone		0,6 Vpp ± 0,2 for High band			—			
Consumption	mA	<200						
Output connectors		F (f)						
Operating temperature range	°C	– 25 ÷ + 60						
Packing dimensions	mm	110 x 90 x 130	110 x 120 x 130	110 x 120 x 130	110 x 125 x 60			
Weight	Kg	0,315	0,555	0,570	0,235			

AL 46

1st IF SAT signal line amplifier.

APPLICATION

Suitable for digital or analogue TV installations.

CHARACTERISTICS

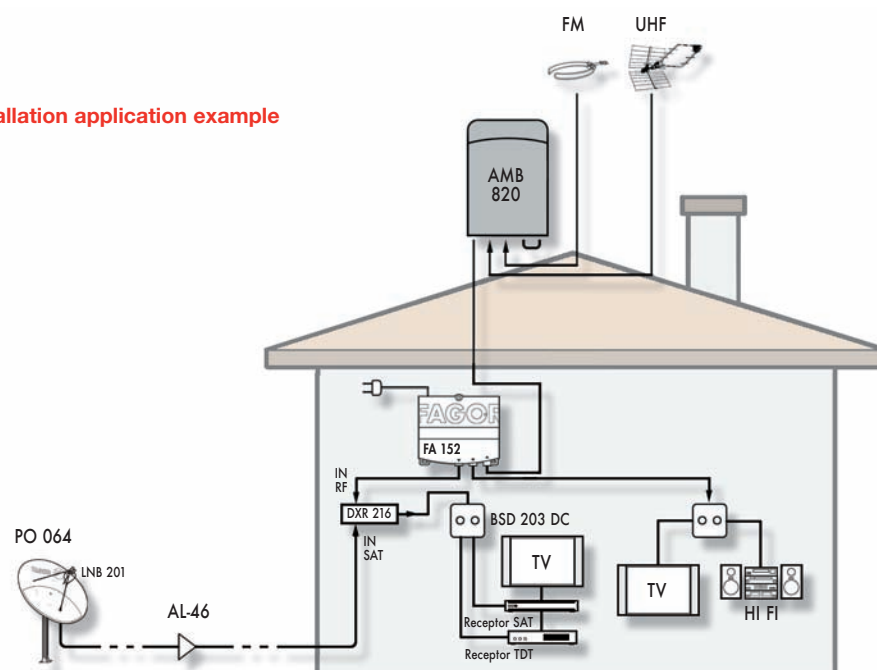
- Offers a linear response, up to 2150 MHz.
- Transparent for 22 KHz switching signal control.
- Remote powered through the coaxial cable.



SIGNAL
RECEPTION

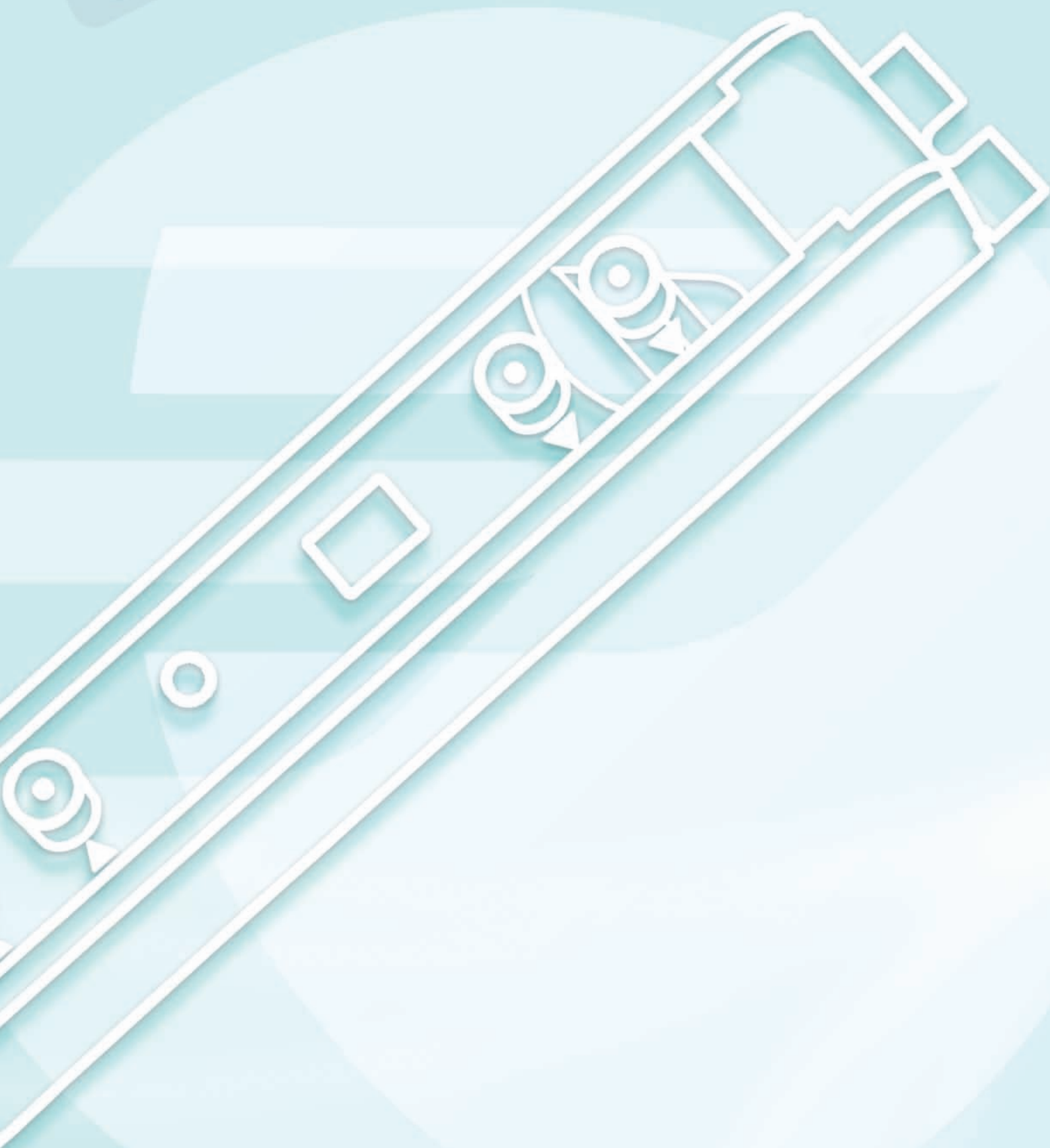
MODEL		AL 46
Reference		86246
Type of connector		F (f)
Frequency range	MHz	950 ÷ 2300
Gain (950 ÷ 2300 MHz)	dB	15 ÷ 18
Noise figure	dB	7
Max. output level (-35 dB)	dBμV	109
Current drawn	mA	50
DC pass (max.)	A	1
Supply voltage	Vdc	15 ± 3
Packing dimensions	mm	80 x 20 x 25
Weight	Kg	0,1

Individual installation application example





headends



Different systems based on the specific requirements of each installation. From systems covering different types of processing under the same format, like the Multi-Processing System, or the new 8000 series, to universal amplification solutions like the MICROMATV® series.

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STT 8000 Series

Digital/digital transmutation of a transponder on the 1st IF Satellite band (950 ÷ 2150 MHz) modulated in QPSK or 8PSK to a channel modulated in COFDM on the 47 ÷ 862 MHz band. De-encryption of one or more services when CAM+Smart Card are inserted (CI model).

APPLICATION

8000 Series XPSK/COFDM processing. It allows receiving Satellite TV programmes in the original format (SD, HD, Subtitling...) directly through DTT receivers embedded in SD, HD Ready and Full HD screens or through a standalone DTT receiver.

CHARACTERISTICS

- Re-multiplexing of the transport stream.
- Selection of services of interest within the transport stream.
- Indication of the channel's residual capacity.
- Regeneration of the Network Information Table (NIT) either on an individual basis or for the entire installation.
- De-encryption of one or more services (STT-CI).
- TS Processing with LCN insertion, PCR restamping and TS remapping.
- LNB control 22 KHz 14/18 V or DiSEqC 1.2.



Supply voltage	V	5	12	17	30
Current drawn STT / STT-CI	mA	720 / 850	375	20	2
Total power (CI)	W	9,5 (without CAM)			
Operating temperature range		0 ÷ 45° C			

MODEL		STT 8000	STT-CI 8000
Reference		08280	08281
INPUT			
Frequency band	MHz	950 ÷ 2150	
Input level	dBμV	40 ÷ 86	
Modulation type		QPSK - 8PSK	
Symbol rate	Mbaud	4 ÷ 45 DVB-S, 10 ÷ 30 DVB-S2	
LCN insertion		yes	
Through losses	dB	< 1,5	
LNB control		22 KHz 14/18 V or DiSEqC 1.2	
OUTPUT			
Frequency band	MHz	47 ÷ 862	
COFDM modulation type		2K; 8K	
Modulation parameters		DVB-T	
Output constellation		QPSK, 16 QAM, 64 QAM	
MER	dB	38	
Output level	dBμV	80	
Regulation of output level	dB	15	
CAM module (not included)		—	According to Norm DVB-CI EN 50221
CAM module current drawn		—	5V-250 mA (+1,25 W)
Programming		UCF 300 / PC (with MCU / LPU 8000)	
Packing dimensions	mm	265 x 195 x 40	
Weight	Kg	1,33	

TTT 8000 Series

Regeneration of an entire DVB-T multiplex, correcting the transport-stream errors, with or without Common Interface. De-encryption of one or more services when CAM and card are inserted (CI model).

APPLICATION

Its main function is to receive a DVB-T transponder, select certain services - including conditional access services, opening rights (model TTT-CI) - and modulating them in a DVB-T transponder to the desired frequency and with an optimal MER for distribution.

CHARACTERISTICS

- Selection of a COFDM channel between 174 and 862 MHz.
- Demodulation, error detection and correction of the received signal.
- MER regeneration of origin in an optimum quality level for signal distribution.
- COFDM modulation signal at the output channel.
- Conversion of encrypted services to free services through the corresponding CAM (CI model).
- Selection of services at the output, adapting the transport stream.
- Regenerates the NIT at the individual level and installation level.
- Allows edition of the name and network IDs.



Supply voltage	V	5	12	30
Current drawn TTT / TTT-CI	mA	600 / 730	375	2
Total power (CI)	W	8 (without CAM)		
Operating temperature range		0 ÷ 45° C		

MODEL	TTT 8000	TTT-CI 8000
Reference	08290	08291
INPUT (COFDM)		
Frequency band	MHz	
Input level	dBμV	
CONDITIONAL ACCESS	NO	Yes EN 50221 (DVB-CI)
TRANSPORT STREAM PROCESSING		
PCR correction	Yes	
Table processing	PAT, CAT, PMT, SDT, NIT, EIT, BAT, TDT/TOT	
LCN insertion	Yes	
DVB-T (IN and OUT) MODULATION		
Standard	EN 300 744	
COFDM modulation type	2K, 8K	
Constellation	QPSK, 16-QAM, 64-QAM	
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8	
Guard Interval	1/4, 1/8, 1/16, 1/32	
Bandwidth	MHz	7, 8
MER	dB	38
RF OUTPUT		
Frequency band	MHz	50.5 ÷ 858 (Δ = 166 KHz)
Output level	dBμV	65 ÷ 80 (Δ = 0.5 dBμV)
Through losses	dB	< 1,5
Spurious in band	dBc	< - 54
CAM module current drawn (not included)	5V-250 mA (+ 1,25W)	
Programming	UCF 300 / PC (with MCU / LPU 8000)	
GENERAL		
Packing Dimensions	mm	265 x 195 x 40
Weight	Kg	1.33

Abbreviations: PAT: Program Association Table
CAT: Conditional Access Table
PMT: Program Mapping Table
SDT: Service Description Table

NIT: Network Information Table
EIT: Event Information Table
BAT: Bouquet Association Table
TDT/TOT: Offset Time Table

SCT 8000 Series

Module for processing a DVB-S/S2 multiplex, selection of services of interest with / without Conditional Access and conversion to a channel under DVB-C standard. It corrects the transport stream errors. De-encryption of one or more services when CAM and card are inserted (CI model).

APPLICATION

The main function of the SCT 8000 is to receive a DVB-S/S2 transponder, select certain services - including conditional access services, opening rights (SCT-CI model) - and modulating them into a DVB-C transponder to the desired frequency and with an optimal MER for distribution.

CHARACTERISTICS

- Selection of a DVB-S/S2 channel between 950 and 2150 MHz.
- Demodulation, detection and correction of the errors of the received signal.
- Output signal with MER in optimum quality level for signal distribution.
- LNB control 22 KHz 14/18 V or DiSEqC 1.2.
- Conversion of encrypted services into free services through the corresponding CAM (CI model).
- Selection of services of interest at the output, adapting the transport stream.
- Indication of the occupancy level of each service and the overall multiplex selected.
- Assignment of LCN (channel number) services to facilitate the automatic tuning of the STB.
- Processing of transport stream. Regeneration of tables, time, stamping correction, edition of programs...
- Regenerates the NIT table at individual and installation level.
- Edition of the name and network IDs.
- Software upgradeable with MCU / LPU.



Supply voltage	V	5	12	17	30
Current drawn SCT / SCT-CI	mA	720 / 850	375	20	2
Total power (CI)	W	9,5 (without CAM)			
Operating temperature range		0 ÷ 45° C			

MODEL		SCT 8000	SCT-CI 8000
Reference		08270	08271
INPUT			
Frequency band	MHz	950 ÷ 2150	
Input level	dBμV	40 ÷ 86	
Modulation type		QPSK, 8PSK (DVB-S/S2)	
Symbol rate		DVB-S: 4 ÷ 45 / DVB-S2: 10 ÷ 30	
Through losses		1,5	
LNB control		22 KHz 14/18 V or DiSEqC 1.2	
CONDITIONAL ACCESS		—	EN 50221 (DVB-CI)
TRANSPORT STREAM PROCESSING			
PCR correction		Yes	
Table processing		PAT, CAT, PMT, SDT, NIT, EIT, BAT, TDT/TOT	
LCN insertion		Yes	
OUTPUT QAM MODULATION			
Modulation parameters		DVB-C	
Symbol rate	Mbaud	1 ÷ 6,96	
QAM order		16, 32, 64, 128, 256	
MER	dB	40	
Through losses	dB	1,5	
RF OUTPUT			
Frequency band	MHz	50,5 ÷ 858 (Δ = 166 KHz)	
Output level	dBμV	65 ÷ 80 (Δ = 0,5 dBμV)	
Through losses	dB	1,5	
Spurious in band	dBc	- 54	
CAM module current drawn (not included)		5V-250 mA (+ 1,25W)	
Programming		UCF 300 / PC (WITH MCU / LPU 8000)	
GENERAL			
Packing Dimensions	mm	265 x 195 x 40	
Weight	Kg	1,33	

Abbreviations: PAT : Program Association Table
CAT : Conditional Access Table
PMT : Program Mapping Table

SDT : Service Description Table
NIT : Network Information Table
EIT : Event Information Table

BAT : Bouquet Association Table
TDT/TOT : Offset Time Table

TCT 8000 Series

Module for processing a DVB-T multiplex, selection of services of interest with / without Conditional Access and conversion to a channel under DVB-C standard. It corrects the transport stream errors. De-encryption of one or more services when CAM and card are inserted (CI model).

APPLICATION

The main function of the TCT 8000 is to receive a DVB-T transponder, select certain services - including conditional access services, opening rights (TCT-CI model) - and modulating them into a DVB-C transponder to the desired frequency and with an optimal MER for distribution.

CHARACTERISTICS

- Selection of a DVB-T channel between 147 and 862 MHz.
- Demodulation, detection and correction of the errors of the received signal.
- Output signal with MER in optimum quality level for signal distribution.
- QAM signal modulation in the desired output channel.
- Conversion of encrypted services into free services through the corresponding CAM (CI model).
- Selection of services of interest at the output, adapting the transport stream.
- Indication of the occupancy level of each service and the overall multiplex selected.
- Assignment of LCN (channel number) services to facilitate the automatic tuning of the STB.
- Regenerates the NIT table at individual and installation level.
- Edition of the name and network IDs.
- Software upgradeable with MCU / LPU.



Supply voltage	V	5	12	30
Current drawn TCT / TCT-CI	mA	580 / 710	340	2
Total Power (CI)	W	8 (without CAM)		
Operating temperature range		0 ÷ 45° C		

MODEL		TCT 8000	TCT-CI 8000
Reference		08260	08261
RF INPUT			
Frequency band	MHz	174 ÷ 862 ($\Delta = 166$ KHz)	
Input level	dB μ V	40 ÷ 90	
CONDITIONAL ACCESS		—	EN 50221 (DVB-CI)
TRANSPORT STREAM PROCESSING			
PCR correction		Yes	
PTS correction		Not processed	
Table processing		PAT, CAT, PMT, SDT, NIT, EIT, BAT, TDT/TOT	
LCN insertion		Yes	
OUTPUT QAM MODULATION			
Modulation parameters		DVB-C	
Symbol rate	Mbaud	1 ÷ 6,96	
Order QAM		16, 32, 64, 128, 256	
MER	dB	40	
Through losses		1,5	
RF OUTPUT			
Frequency band	MHz	50,5 ÷ 858 ($\Delta = 166$ KHz)	
Output level	dB μ V	65 ÷ 80 ($\Delta = 0,5$ dB μ V)	
Through losses	dB	< 1,5	
Spurious in band	dBc	< - 54	
CAM module current drawn (not included)		5V-250 mA (+ 1,25W)	
Programming		UCF 300 / PC (with MCU / LPU 8000)	
GENERAL			
Packing Dimensions	mm	265 x 195 x 40	
Weight	Kg	1,33	



DEN 8000

The **DEN 8000** encoder, modulates the content of 4 analogue audio/video signals to a DVB-ASI format.

APPLICATION

It is used to watch the content of several analogue sources, such as surveillance cameras or DVD players, among others, on a TV equipped with a DTT receiver.

CHARACTERISTICS

- Multiplexer function for up to 4 analogue A/V sources (PAL, NTSC).
- MPEG-2 MP@ML output video encoding, bit rate 1-15Mbps.
- MPEG-1 Layer 1, Layer 2 audio encoding.
- Programming via front panel (keyboard + LCD display) or PC (local or remote).
- Mountable in 19" rack.
- Includes:
 - 4 x 3RCA-3BNC cables for 4 analogue A/V sources.
 - 1 x BNC-F(m) cable for one COFDM output.
 - 1 x user's manual.
 - 1 x 230Vac cable.



Supply voltage	90 ÷ 250 V
Power consumption	25 W
Operating temperature range	0 ÷ 45° C

MODEL		DEN 8000
Reference		08200
INPUT		
Video format		CVBS
Video Standard		PAL, NTSC
Video connectors		BNC, 75 Ohm
Input audio		1xStereo / 2xMono
Audio connectors		2xBNC, 600 Ohm
OUTPUT		
Standard		DVB-ASI
ASI connectors		2xBNC, 75 Ohm
Video encoding		MPEG-1, MPEG-2 MP@ML
Bit Rate video	Mbps	1-15
Video format		Full D1, Half D1, SIF
Audio encoding		MPEG-1 Layer1, Layer 2
Sample Rate audio	kHz	32, 44.1, 48
Packing dimensions	mm	580 x 580 x 135
Weight	kg	6,2

DMT 8000

APPLICATION

The DMT 8000 digital modulator modulates the incoming MPEG-2 TS in DVB-ASI signal into a COFDM channel.

CHARACTERISTICS

- Indication of residual channel capacity.
- Regeneration of the Network Information Table (NIT), either locally for each module or for the entire installation.
- TS processing with LCN insertion, PCR restamping and TS remapping.
- Selection of programmes.



Supply voltage	V	5	12	17	30
Current drawn (7 W)	mA	800	360	0	2
Operating temperature range		0 ÷ 45° C			

MODEL	DMT 8000
Reference	08201
INPUT	
Standard	DVB-ASI
Package length	Automatic detection 188/204 Bytes
Input connector	F(f)
TS PROCESSING	
LCN insertion	yes
Operating modes	Transparent/Re-multiplexer
OUTPUT	
Standard	DVB-T
Frequency band	MHz 47-862
COFDM modulation	2K/8K
Constellation type	QPSK/16-QAM/64-QAM
MER	dB 38
Output level	dBμV 80
Output level adjustment	dB 15
Programming	UCF 300 / PC (with MCU / LPU 8000)
Packing dimensions	mm 265x 195 x 40
Weight	Kg 1,33

ACM 8000

APPLICATION

Modulates the incoming MPEG-2 TS in DVB-ASI signal into a DVB-C channel.

CHARACTERISTICS

- Indication of residual channel capacity.
- Regeneration of the Network Information Table (NIT), either locally for each module or for the entire installation.
- TS processing with LCN insertion, PCR restamping and TS remapping.
- Selection of programmes.



Supply voltage	V	5	12	17	30
Current drawn (6 W)	mA	550	225	0	2
Operating temperature range					0 ÷ 45° C

MODEL		ACM 8000
Reference		08202
INPUT		
Standard		DVB-ASI
Package length		Automatic detection 188/204 Bytes
Input connector		F(f)
TS PROCESSING		
LCN insertion		yes
Operating modes		Transparent/Re-multiplexer
OUTPUT QAM MODULATION		
Standard		DVB-C
Symbol rate	Mbaud	1 ÷ 6,96
Order QAM		16, 32, 64, 128, 256
MER	dB	40
Through losses	dB	1,5
RF OUTPUT		
Frequency band	MHz	50,5 ÷ 858 (Δ = 166 KHz)
Output level	dB μ V	65 ÷ 80 (Δ = 0,5 dB μ V)
Through losses	dB	< 1,5
Spurious in band	dBc	< - 54
Programming		UCF 300 / PC (with MCU / LPU 8000)
GENERAL		
Packing Dimensions	mm	265 x 195 x 40
Weight	Kg	1,33

SM 8000 / SM-ST 8000

Modulator with VSB output, that allows adjacent channel operation. A programmable output channel means that the modulator can easily be inserted into the headend since it operates in any TV channel (BI,BIII, "S" Bands and UHF). The stereo model includes STERO/DUAL signals processing.

APPLICATION

Analogue satellite TV community installations, where locally produced channels insertion is needed.

CHARACTERISTICS

- It allows audio volume adjustment to equalise them to the level of other installed programs.
- It also offers the possibility of fine tuning the output channel frequency to disperse intermodulation products in installations with many channels.
- RF output signal ON/OFF switchable for analysis and headend adjustment.
- Incorporates test bars generator.
- Output frequency shift.



Power supply voltage	V	5		12		17		30	
Model		Mono	Stereo	Mono	Stereo	Mono	Stereo	Mono	Stereo
Current drawn	mA	270	350	400	0	0	5	5	
Total power	W	5,7(Mono) – 6,3(Stereo)							
Operating temperature range		0÷45 °C							

MODEL	SM 8000	SM-ST 8000
Reference	19800	19801
Output connectors	F(f)	
Audio/video input connector	MINI DIN 5 ways	
Audio Pre-emphasis	µs	50
Video input level	Vpp	0,9 ÷ 1,25 Vpp
Audio input level	Vpp	0,5 ÷ 2,5 Vpp
Output channels VSB	MHz	47 to 862
Output level	dBµV	>90 with 15 dB regulation
Spurious in channel	dBc	>60
Spurious in band	dBc	>56
C/N ratio (3*)	dB	In channel: > 56 In band for min. output level: > 72
Carrier accuracy	KHz	±30
Carrier stability	KHz	±10
Output frequency resolution	KHz	125
Video modulation depth	%	85
Pv / Ps ratio adjustable	dB	12/16
Programming	UCF 300 / PC (with MCU / LPU 8000)	
Standard TV	PAL (B/G, I, D/K) / SECAM (L, D/K, B/G)	PAL B/G, SECAM B/G
PV / PS separation	MHz	PAL (B/G:5,5, I:6,0,., D/K:6,5) / SECAM (L:6,5, D/K:6,5, B/G:5,5)
Audio output modes	Mono	Stereo / Dual switchable (A/B - B/A)
Packing dimensions	mm	265 x 195 x 40
Weight	Kg	1,33

RHA 8000

FM amplifier that allows radio signal FM & DAB processing in community headends.

APPLICATION

Community installations where FM & DAB radio signal distribution is needed.

CHARACTERISTICS

- Incorporates an RF signal combiner with the FM/DAB signal.
- Allows selective attenuation of the FM signals by means of its selective Notch Filters.



Supply voltage	V	5	12	17	30
Current drawn	mA	15	195	—	5
Total power	W	2,5			
Operating temperature range		0÷45 °C			

MODEL		RHA 8000
Reference		35080
FM frequency range	MHz	87.5 – 108
DAB frequency range	MHz	195 – 223
RF frequency range	MHz	47 – 862
FM gain	dB	>10
DAB gain	dB	>5
FM regulation	dB	40±2
DAB regulation	dB	20±2
Operative FM input level	dBμV	60 – 100
Operative DAB input level	dBμV	60 – 80
FM noise figure	dB	7
DAB noise figure	dB	6
FM output level DIN45004B(-35dBc)	dBμV	80
DAB output level DIN45004B(-35dBc)	dBμV	75
Selective attenuation (notch filters)	dB	>10dB (1 filter) >15dB (2 filters) >19dB (3 filters)
Through losses RF	dB	< 1,5
Packing dimensions	mm	265 x 195 x 40
Weight	Kg	1,33

SHA-SAC 8000

Broadband Amplifiers for 8000 series headends. The SHA model is a single input amplifier. The SAC Amplifier is a 4 input model to combine and amplify up to 4 frames.

APPLICATION

TV community installations, both SMATV and CATV.

CHARACTERISTICS

- They have gain regulation and a TEST output.
- Low noise figure and output level regulation.
- Screws and power supply cable included.
- Optimum frequency response.
- High dynamic threshold.



		SHA		SAC	
Supply voltage	Vdc	5	12	5	12
Current drawn	mA	20 (10W)	825 (10,3W)	20 (10W)	850 (10,3W)
Total power	W	10		10,3	
Operating temperature range		0 ÷ 45° C			

MODEL		SAC 8000	SHA 8000
Reference		35081	35083
No. inputs		4	1
Frequency band	MHz	47-862	
Input impedance	Ohm	75	
Gain	dB	43	
Regulation	dB	20	
Noise figure	dB	7	
IM3 output level (-60 dBc DIN 45004B)	dBμV	120	
Output level stability	dB	± 2	
TEST output level	dB	-30	
Packing dimensions	mm	265 x 195 x 40	
Weight	Kg	1,25	

SPS 8000

The SPS 8000 model is a multi-voltage power supply that can be connected to a common power BUS shared with various power supplies.

APPLICATION

Power supply for 8000 series headends, its capacity for sharing the load makes it suitable for redundant systems.

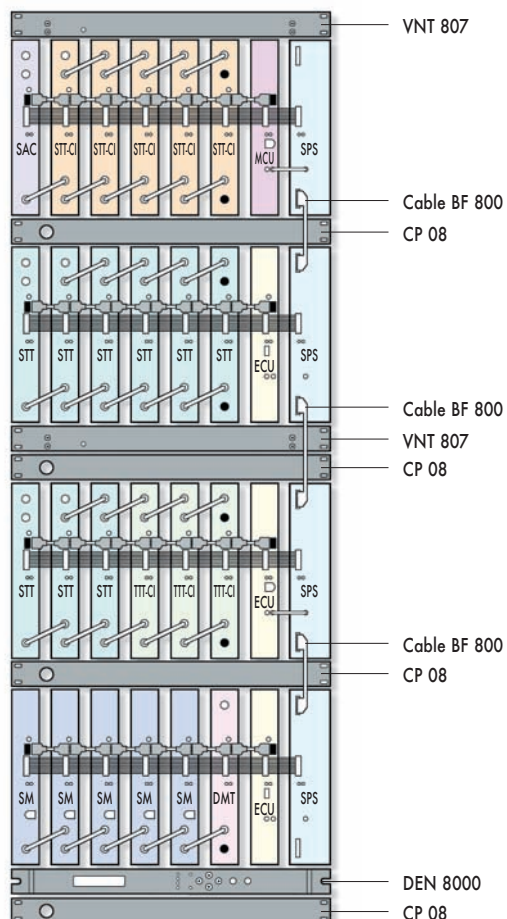
CHARACTERISTICS

- Load Sharing technology.



MODEL		SPS 8000			
Reference		68000			
Input voltage	Vac	187 ÷ 264			
Output voltages	Vdc	30	17	12	5
Max. current per output	A	0,1	0,5	4	7,5
Output current drawn	W	95			
Packing dimensions	mm	275 x 185 x 60			
Weight	Kg	1,50			

Example



MCU 8000

Control Unit for the permanent supervision of the headend.

CHARACTERISTICS

- Configuration of the headend through the USB port on a PC.
- Upgrading of the firmware.
- Monitoring of the main parameters.
- Diagnosis of the headend.



Supply voltage	5 Vdc
Current drawn	260 mA
Operating temperature range	0 ÷ 45° C

MODEL	MCU 8000
Reference	85110
Local communication with PC	USB 2.0 12 Mbps
Com. with processing module	BUS CAN 1 Mbps
Packing dimensions	mm 270 x 195 x 40
Weight	Kg 1,50

EXTENSION UNIT FOR FRAMES

ECU 8000

Extension unit, that in combination with the Master Control Unit allows a permanent supervision of the headend (1 ECU x frame).



Supply voltage	5 Vdc
Current drawn	160 mA
Operating temperature range	0 ÷ 45° C

MODEL	ECU 8000
Reference	85114
Local communication with PC	USB 2.0 12 Mbps
Com. with processing module	CAN BUS 1 Mbps
Packing dimensions	mm 270 x 195 x 40
Weight	Kg 1,50



LPU 8000

Portable control unit for local programming via PC of a 8000 series headend.

CHARACTERISTICS

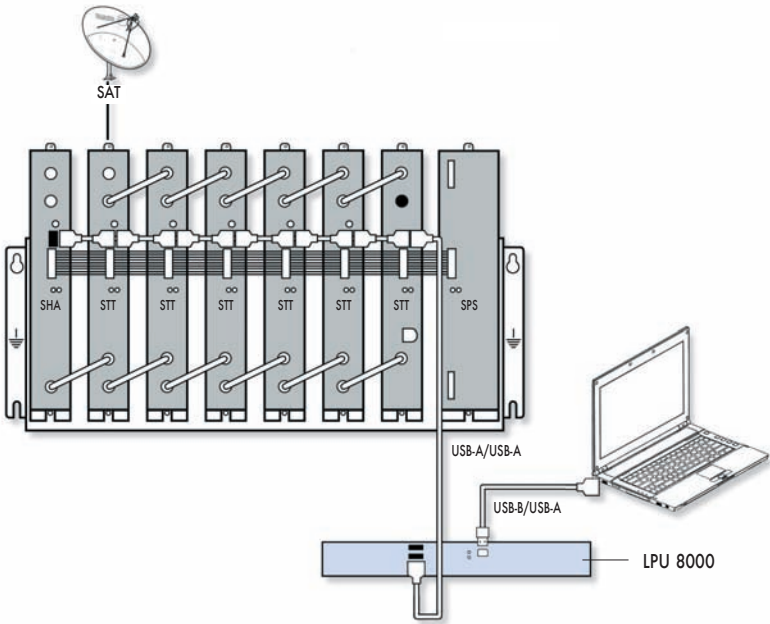
- Headend setting up through the USB port of a PC.
- Firmware updating in local mode.
- Monitoring of the main parameters.
- Local headend diagnosis.



Supply voltage	5 Vdc
Current drawn	260 mA
Operating temperature range	0 ÷ 45° C

MODEL	LPU 8000
Reference	85116
Local communication with PC	USB 2.0 12 Mbps
Com. with processing module	BUS CAN 1 Mbps
Packing dimensions mm	270 x 195 x 40
Weight Kg	1,50

Example



ACCESSORIES

COMMUNICATION BUS BETWEEN MODULES

APPLICATION	MOD.	REF.
8000 Series	USB 800	83811



COMMUNICATION BUS BETWEEN FRAMES

APPLICATION	MOD.	REF.
8000 Series	USB 801	83812



120 OHMS USB LOAD

APPLICATION	MOD.	REF.
8000 Series	CU 120	83813



CONTROL UNIT

Universal control unit designed for programming 8000 series modules.
Packing dimensions: 460 x180 x140 mm

APPLICATION	MOD.	REF.
8000 series & MicroMATV Evo	UCF 300	85115



POWER BUS

APPLICATION	MOD.	REF.
7 modules + power supply	BA 807	83807



RF BRIDGE

Rigid 75 Ohm coaxial bridge.

APPLICATION	MOD.	REF.
8000 series	PMD 800	83814



19" RACK BLIND COVERS

CC 08: for module.
CC FR: for redundant power supply.

APPLICATION	MOD.	REF.
19" rack frame	CC 08	83803
	CC FR 08	83816



CC 08



CC FR 08

PASSAGE COVER BETWEEN FRAMES

APPLICATION	MOD.	REF.
19" rack frame	CP 08	83817



POWER SUPPLY BUS

Provides power between frames.

APPLICATION	MOD.	REF.
19" rack	BF 800	83810



ACCESSORIES FOR WALL MOUNTING

VENTILATED HOUSING

Designed for wall mounting. Includes all necessary accessories. Ventilation unit and 3 power socket. With safety lock.
Dimensions: 515 x 250 x 370 mm.
Weight: 6,9 Kg.

APPLICATION	MOD.	REF.
7 modules + power supply	CFR 807	83806



FRAME

Designed for installation and protection of the 8000 series headend. Includes all necessary accessories for wall mounting.
Dimensions: 450 x 15 x 170 mm.
Depth with modules: 200 mm.

APPLICATION	MOD.	REF.
7 modules + power supply	BST 807	83805



19" RACK VENTILATION UNIT

Designed for installation on BST 807 frame.
Dimensions: 160 x 135 x 50 mm.
Supply voltage: 230 V / 200 mA.
Weight: 0,8 Kg.

APPLICATION	MOD.	REF.
Frame without housing	VNT 800	83818



ACCESSORIES FOR RACK 19" MOUNTING

19" RACK FRAME

Designed for mounting the 8000 series modules on 19" rack.
Dimensions: 485 x 185 x 265 mm.

APPLICATION	MOD.	REF.
7 modules + power supply	BSR 807	83800



VENTILATION UNIT

Designed for installation on 19" rack.
Dimensions: 485 x 285 x 45 mm.
Supply voltage: 230V / 200 mA.

APPLICATION	MOD.	REF.
19" rack	VNT 807	83801



19" RACK ADJUSTMENT PLATES ON

CAM 08: for module.
CAF 08: for power supply.

APPLICATION	MOD.	REF.
19" rack	CAM 08	83802
	CAF 08	83804

CAM 08



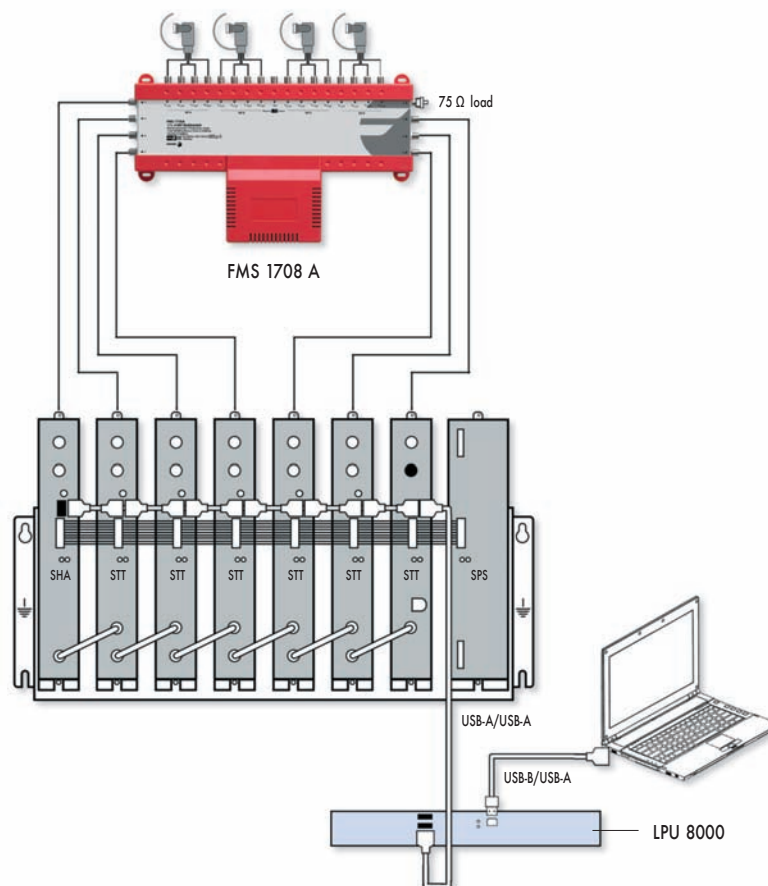
CAF 08



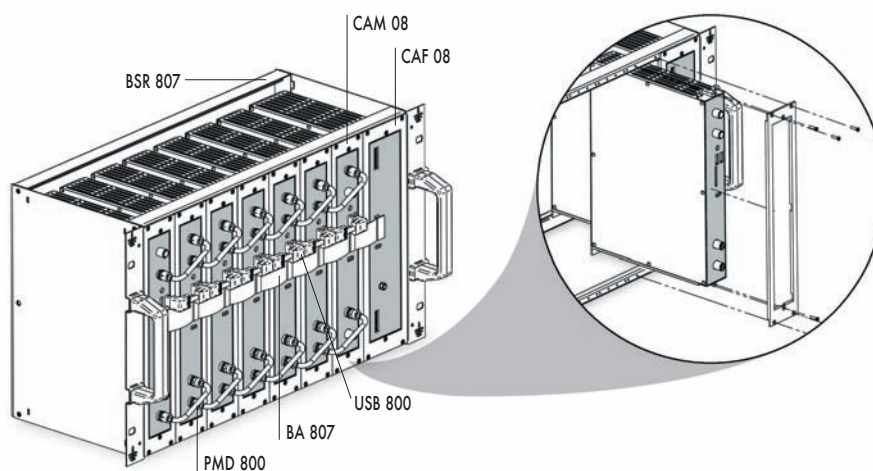


APPLICATION EXAMPLES

Example

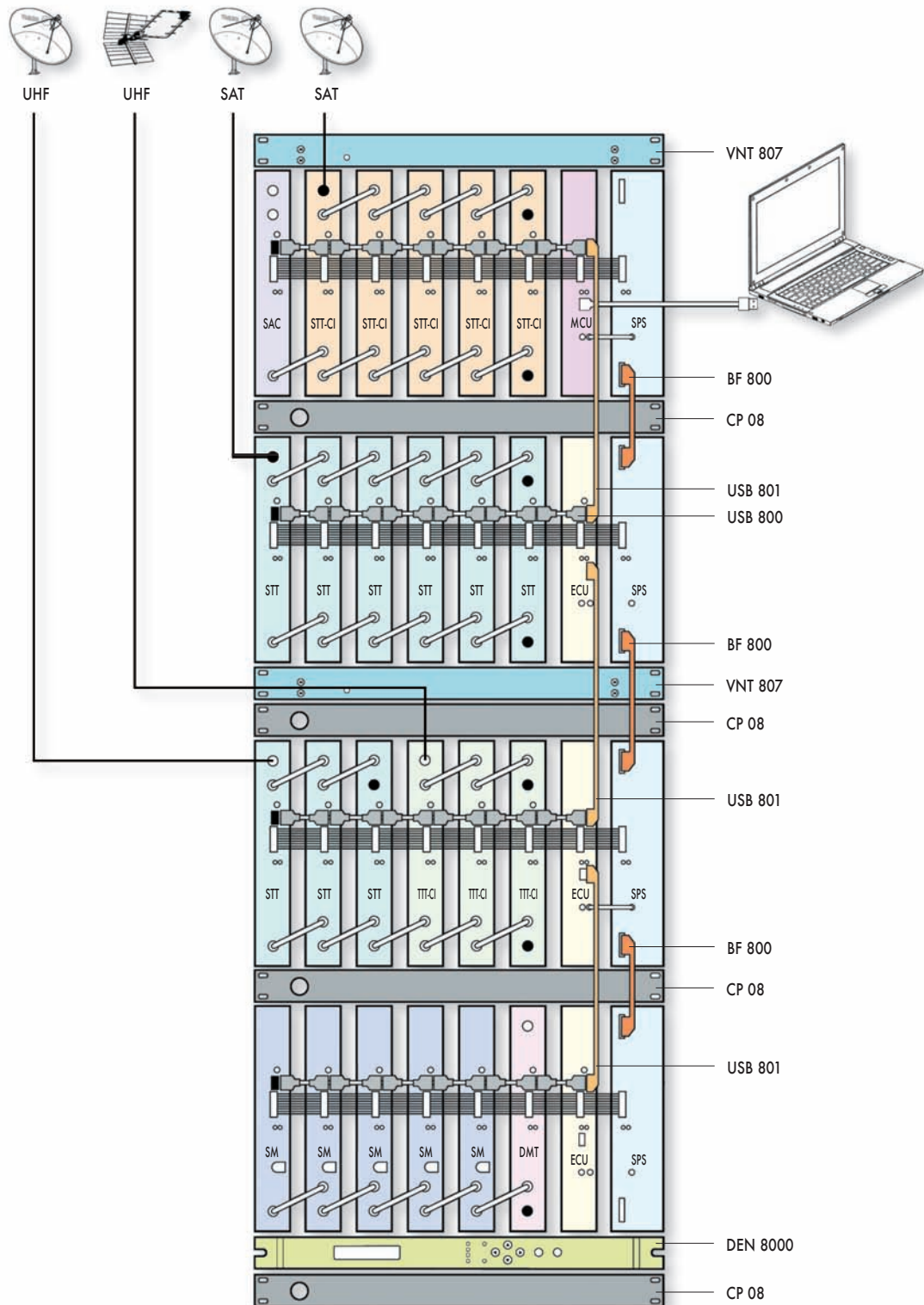


Example



APPLICATION EXAMPLES

Example





SM 6000+ / SM 7000+ SM 6000+ ST / SM 7000+ ST (STEREO)

Modulator with VSB output, that allows adjacent channel operation. A programmable output channel means that the modulator can easily be inserted into the headend since it operates in any TV channel (BI, BIII, "S" Bands and UHF). The stereo model includes STERO/DUAL signals processing.

APPLICATION

Analogue satellite TV community installations, where locally produced channels insertion is needed.

CHARACTERISTICS

- It allows audio volume adjustment to equalise them to the level of other installed programs.
- It also offers the possibility of fine tuning the output channel frequency to disperse intermodulation products in installations with many channels.
- RF output signal ON/OFF switchable for analysis and headend adjustment.
- Brightness adjustment available.
- Video modulation depth adjustable from 75 to 90%.
- Incorporates test bars generator.
- Output frequency shift.
- Screws and power supply cable included.



Supply voltage	Vdc	30	24	12	5
Current drawn (6,2 W)	mA	1	70	320	133
Operating temperature range		0 ÷ 50° C			

MODEL *	SM 6000+	SM 7000+	SM 6000+ST	SM 7000+ST
Reference	19650	19750	19665	19765
Assembly system	Frame	19" Rack	Frame	19" Rack
Input/output connector	F(f)			
Audio/Video input connector	MINI DIN 5 ways (f)			
Audio pre-emphasis	µs	50		
Video input level	Vpp	0,9 ÷ 1,25 / 75Ω		0,8 ÷ 1,1 / 75Ω
Audio input level	Vpp	0,5 ÷ 2,5 (Δ = 13 KHz) / 10KΩ @ 1KHz		
VSB output channel	MHz	E2... 69 (programmable)		
Output level	dBµV	75 ÷ 90 (adjustable)		
Spurious in channel	dBc	- 60		
Spurious in band	dBc	> 54		- 54
C/N ratio (8 modules)	dB	56		
Carrier accuracy	KHz	± 30		
Carrier stability	KHz	± 10		
Output fine tuning	MHz	± 4,5 (Δ = 125 KHz)		
Video modulation depth (switchable)	%	85 + 5, -10 (Δ = 5%)		
Pv / Ps ratio adjustable	dB	13 + 1, -2 (Δ = 1 dB)		
TV standard		B / G		
Audio output modes		STEREO / DUAL switchable (A/B - B/A)		
Packing dimensions	mm	272 x 166 x 45		
Weight	Kg	1,5		

* Standards available: B/G, I, L, D/K, M, N...

CIF 6000+ A/D / CIF 7000+ A/D

Channel to channel Converter with processing via IF. Allows to change frequencies, without modifying the content of the base band signal. Any channel can be programmed at the output with the UCF 100 External Control Unit. Adjacent input and output channel operation.

APPLICATION

Analog Terrestrial TV installations. COFDM Digital Terrestrial TV community installations.

CHARACTERISTICS

- The built-in AGC circuit keeps a stable output level.
- Enables the conversion of any input channel, in any output channel, eliminating the incompatibilities between channels.
- It allows output signal total disconnection.
- Incorporates a LED with input level information.
- It also offers the possibility of fine tuning the output channel frequency to disperse intermodulation products in installations with many channels.
- Screws and power supply cable included.



Supply voltage	Vdc	30	12	5
Current drawn (7,3 W)	mA	12	450	300
Operating temperature range		0 ÷ 50° C		

MODEL		CIF 6000+ A/D	CIF 7000+ A/D
Reference		06426	07426
Assembly system		Frame	19" Rack
Input/output connectors		F (f)	
Input frequency	MHz	47 ÷ 862	
Input fine tuning	MHz	± 4,5 (Ø= 125 KHz Analog; 166 KHz Digital)	
Input level	dBµV	65 ÷ 90 Analog; 55 ÷ 80 Digital	
AGC	dB	>30	
C / N for 8 modules	dB	56 (input >75 dBµV Analog)	46 (input >65 dBµV Digital)
Output level adjustable	dBµV	75 ÷ 90 Analog; 65 ÷ 80 Digital	
VSB output frequency		E02... 69 (B/G)	
Phase noise		83 dBc / Hz @ 10 KHz 102 dBc / Hz @ 100 KHz	
Output fine tuning	KHz	± 4,5 (Δ = 125 KHz Analog; 166 KHz Digital)	
Spurious in band	dBc	- 54	
Carrier accuracy	KHz	± 30	
Carrier stability	KHz	± 20	
Output level stability	dB	± 2	
Channel flatness	dB	± 1	
Image frequency rejection	dB	60	
Input channel rejection at output	dB	60	
Through losses at input	dB	± 1	
Through losses at output	dB	1,5 (47 ÷ 862 MHz)	
Adjacent channel rejection	dB	>55	
Packing dimensions	mm	272 x 166 x 45	
Weight	Kg	1,7	

SDM 6000+ / SDM 7000+ SDM 6000+ ST / SDM 7000+ ST (STEREO)

Transmodulator that converts the QPSK modulated signal coming from the satellite into AM channels with analogue modulation for its distribution together with the rest of terrestrial and analogue satellite channels through just one cable. Operates in any TV channel in VSB, allowing adjacent channels operation. The stereo model includes two audio carriers for STEREO/DUAL signals processing.

APPLICATION

Community installations where it is necessary to distribute the Digital Satellite TV signal, converted into analogue channels. No need of individual receivers with each TV set.

CHARACTERISTICS

- No need of input splitters or output combiners.
- Displays the S/N ratio to know picture quality.
- Easy programming of the output channel by UCF 100 Control Unit.
- OSD to simplify system parameters programming.
- Baud Rate from 4 to 45 Mbaud.
- Automatic Code Rate detection.
- Menu guided programming with OSD, On Screen Display.
- Teletext and Radio programs identification.
- Screws and power supply cable included.



Supply voltage	Vdc	30	17	12	5
Current drawn (10,5 W)	mA	2	16	430	1000
Operating temperature range		0 ÷ 40° C			

MODEL	SDM 6000+	SDM 7000+	SDM 6000+ST	SDM 7000+ST
Reference	27580	27880	27595	27895
Assembly system	Frame	19" Rack	Frame	19" Rack
Output / input connectors	F (f)			
Input frequency	MHz	950 ÷ 2150		
Input modulation type		QPSK (DVB-S compliance)		
Input level	dBμV	49 ÷ 89 (-60 ÷ -20 dBm)		
1 st IF input through losses	dB	1,5		
Dynamic threshold C / N (QEF FEC 3/4)	dBc	8		
1 st IF bandwidth	MHz	55		
AFT pulling range	MHz	± 5		
Baud rate	Mbaud	1,5 ÷ 45 (1 Kbaud resolution)		
FEC		DVB compliance 1/2, 2/3, 3/4, 5/6, 7/8 (automatic)		
Output modulation type		PAL, B/G		
VSB output frequency range	MHz	E 2 ÷ E 69 (47 ÷ 862 MHz) programmable		
Output fine tuning	MHz	± 4,5 (Δ = 125 KHz)		
Output through losses	dB	1,5		
Output level	dBμV	75 ÷ 90 (-34 ÷ -19 dBm)		
Spurious in channel	dBc	- 60		
Spurious in band	dBc	- 54		
Carrier accuracy	KHz	± 30		
Carrier stability	KHz	± 10		
Video modulation depth	%	85		
C/N ratio (8 modules)	dB	56		
Audio output modes		Stereo / Dual switchable (A/B - B/A)		
Packing dimensions	mm	272 x 166 x 45		
Weight	Kg	1,8		

* Standards available: B/G, I, L, D/K M, N...

TDM 6000 / TDM 7000

TDM 6000 ST / TDM 7000 ST (STEREO)

The TDM 6000 / TDM 7000 transmodulator converts a TV or radio channel with COFDM modulation on a terrestrial digital television multiplex into a VHF/UHF channel with standard PAL modulation (MPEG 2). The stereo model includes two audio carriers for STEREO/DUAL signals processing.

APPLICATION

Community installations requiring the distribution of the digital terrestrial TV signal converted into analogue channels. The installation of individual receivers with each TV set is not necessary.

CHARACTERISTICS

- Adjacent channel operation.
- Operates on any VSB output and input channel.
- Automatic detection/configuration of FFT mode (2K, 8K), constellation, Code Rate, guard interval and bandwidth.
- Does not require input splitters or output combiners.
- Makes it possible to know image quality by measuring the BER before Viterbi and by S/N estimation.
- The output channel is easily programmed through the UCF 100 control unit.
- Has an OSD menu to simplify the programming of the system parameters.
- Identification of programs containing teletext and radio.
- Screws and power supply cable included.



Supply voltage	Vdc	30	24	17	12	5
Current drawn (10 W)	mA	1	—	—	430	960
Operating temperature range						0 a 40 °C

MODEL	TDM 6000	TDM 7000	TDM 6000 ST	TDM 7000 ST
Reference	27460	27560	27475	27575
Assembly system	Frame	19" Rack	Frame	19" Rack
Input / Output connectors	F (f)			
Input demultiplexing through losses	dB			
Input frequency	MHz			
Input modulation type	COFDM (DVB-T compliance)			
Channel bandwidth	MHz			
Input level for modulation: 64 QAM, Tu: 1/4 & CR: 2/3	dBμV			
Input impedance	Ω			
COFDM modulation modes	QPSK, 16QAM, 64QAM			
Guard interval (auto-detection)	1/32, 1/16, 1/8, 1/4 of the symbol duration			
FEC	1/2, 2/3, 3/4, 5/6, 7/8			
Frequency resolution	KHz			
Capture range	MHz			
Input signal	Compatible with IEC-ISO 13818-1			
PID filtering	Up to 32 PID			
Video decoding	IEC-ISO 13818-2 compliance			
Aspect ratio	4:3, 16:9			
Video encoding	PAL			
Video output	Video composed on 75 Ω			
Audio output level	1 Vpp over 600 Ω			
Audio output	Stereo, Joint stereo, dual or mono			
Teletext	Inserted in the video output VBI			
Output fine tuning	MHz			
Output frequency range	CCIR B/G			
Output level	dBμV			
Output multiplexing through losses	dB			
Packaging dimensions	mm			
Weight	Kg			



AFM 6000 / AFM 7000

FM amplifier that allows radio signal processing in community headends. Amplifies the whole FM radio band.

APPLICATION

Community installations where FM radio signal distribution is needed.

CHARACTERISTICS

- A built-in FM/RF combiner allows trouble free insertion in any headend.
- Allows selective attenuation of the FM signals by means of its 3 selective Notch Filters.
- Screws and power supply cable included.



Supply voltage	Vdc	34	24
Current drawn (2,1 W)	mA	10	70
Operating temperature range		0 ÷ 50° C	

MODEL		AFM 6000	AFM 7000
Reference		35004	35005
Assembly system		Frame	19" Rack
Input/output connectors		F (f)	
FM frequency range	MHz	87,5 ÷ 108	
TV frequency range	MHz	47 ÷ 75 / 120 ÷ 862	
FM max. output level DIN 45004 B (-35 dB)	dBμV	125	
Return losses	dB	>9	
FM gain	dB	40	
FM gain regulation	dB	20	
Selective attenuation (notch filters)	dB	10 (1 filter) 15 (2 filters) 19 (3 filters)	
TV through losses (47 ÷ 862 MHz)	dB	< 0,5	
FM noise figure	dB	6	
Shielding factor	dB	< 65	
Impedance	Ω	75	
Packing dimensions	mm	272 x 166 x 45	
Weight	Kg	1,2	

SHA 6115 N / SHA 7115 N

SAC 6415 N / SAC 7415 N

Broadband Amplifiers for SMATV and CATV headends. The SHA model is a single input amplifier. The SAC Amplifier is a 4 input model to combine and amplify up to 4 frames (32 channels).

APPLICATION

TV community installations, both SMATV and CATV.

CHARACTERISTICS

- They have gain regulation and a TEST point for the output signal level.
- Each input has an amplification step before gain regulation. This way, the noise figure is not directly affected by the gain regulation.
- Screws and power supply cable included.
- Optimum frequency response.
- High dynamic threshold.



		SHA N	SAC N
Supply voltage	Vdc	24	
Current drawn	mA	170 (4 W)	320 (7,7 W)
Operating temperature range		0 ÷ 50° C	

MODEL	SHA 6115 N	SHA 7115 N	SAC 6415 N	SAC 7415 N
Reference	35016	35017	35018	35019
Assembly system	Frame	19" Rack	Frame	19" Rack
Input/output connectors	F (f)			
Number of inputs	1		4	
Frequency range	MHz	47 ÷ 862		
Input and output impedance	Ω	75		
Gain	dB	33		37
Gain regulation	dB	20		
Band flatness	dB	4		5
Noise figure @ Max. Gain	dB	5		12
IM3 output level	dB μ V	120 (-60 dBc DIN 45004 B)		
CTB output level	dB μ V	108 (-60 dBc 42 Ch, EN 50083-3)		
Isolation between inputs	dB	—		20
TEST output level	dB	- 30		
TEST output connector		F (f)		
Packing dimensions	mm	272 x 166 x 45		
Weight	Kg	1,2		



IFL 6000 / IFL 7000

Twin Converter which converts 1st IF SAT signal to be distributed through just one cable. Each IFL unit has a twin conversion module to independently process 2 transponders. Designed for processing Analogue and Digital TV. Can be operated with adjacent transponders, both at input and output.

APPLICATION

Satellite analogue or digital TV community installations in large and medium sized communities, where the 1st IF SAT signal must be distributed through just one cable.

CHARACTERISTICS

- One model is all that is needed for any input and output channel.
- Input and output frequency accuracy are controlled by high precision PLL's, that guarantee a very low phase noise.
- A built-in AGC control fixes the output level.
- IFL-T model is a 1st IF SAT TERMINAL converter and it has 2 independent inputs for processing signals coming from different sources.
- Screws and power supply cable included.



Supply voltage	Vdc	30	17	12	5
Current drawn (4,7 W)	mA	6	20	130	515
Operating temperature range		0 ÷ 50° C			

MODEL	IFL 6000	IFL 7000	IFL 6000-T	IFL 7000-T
Reference	06900	07900	06902	07902
Assembly system	Frame	19" Rack	Frame	19" Rack
Number of inputs	1		2 (independent)	
Module capacity	2 Transponders			
Input/output connectors	F (f)			
1 st IF SAT input frequency	MHz	950 ÷ 2150		
Input level	dBµV	49 ÷87 (−60 ÷ −22 dBm)		
1 st IF SAT through losses	dB	< 1,5		
Return losses	dB	> 8		
DC pass for LNB	mA	500 max.		
2 nd IF Bandwidth	MHz	27 / 36 (Switchable)		
Phase noise (F. in 970 MHz, F. out 2150 MHz)	dBc / Hz	−75 @ 10 KHz		
Output frequency	MHz	950 ÷ 2150	Channalized mode: steps of 40 MHz Manual mode: steps of 2 MHz	
Output level	dBµV	> 78 (−27 dBm)		
Output level regulation	dB	20		
Output frequency stability	MHz	± 0,15		
Level stability (25° C ± 20° C)	dB	± 2		
CAG	dB	>40		
Selectivity		Suitable for 40 MHz or 30 MHz channalization		
Packing dimensions	mm	272 x 166 x 45		
Weight	Kg	1,6		

IFA 6000 S / IFA 7000 S

Headend amplifier that amplifies the 1st IF SAT signal and combines it with RF channels.

APPLICATION

Satellite TV community installations where IF processors are incorporated.

CHARACTERISTICS

- Includes a RF / 1st IF diplexer which guarantees noise-free terrestrial TV reception.
- Provides an equalized output level to compensate losses in the distribution network.
- Compatible with any existing terrestrial headend.
- Designed for processing Analogue and Digital TV .
- Screws and power supply cable included.



Supply voltage	12 Vdc
Current drawn (3,6 W)	300 mA
Operating temperature range	0 ÷ 50° C

MODEL		IFA 6000 S	IFA 7000 S
Reference		35914	35915
Assembly system		Frame	19" Rack
Input/output connectors		F (f)	
Number of inputs		2 inputs 1 st FI SAT + 1 inputs RF (15 ÷ 862 MHz)	
LNB DC pass voltage (1 st IF input)	mA	17 V (400 max.)	
1 st IF SAT input frequency range	MHz	950 ÷ 2300	
RF frequency range	MHz	15 ÷ 862	
RF insertion losses	dB	< 2	
Output band (1 st IF SAT + RF)	MHz	15 ÷ 2300	
1 st IF SAT min. input level	dBμV	59	
1 st IF SAT gain (± 2dB)	dB	30 (950 MHz) 38 (2150 MHz) 39 (2300 MHz)	
RF signal rejection (1 st IF SAT input)	dB	40 (5 ÷ 862 MHz)	
Output level DIN 45004B (IM3 – 35 dB)	dBμV	125 (2150 MHz)	
Output level regulation	dB	20	
Packing dimensions	mm	272 x 166 x 45	
Weight	Kg	1,2	

SPS 6000 N / SPS 7000 N SPS 6100+ / SPS 7100+

Power Supply that provides the operating voltage for all modules of the Multi-Processing system.

APPLICATION

Multi-Processing system headends.

CHARACTERISTICS

- Switching mode design to achieve a high performance with maximum efficiency.
- Complies with the UNE-EN 60065 standard as a class I equipment.
- Protected against overloading.
- Screws and power supply cable included.



HEADENDS

		SPS N	SPS +
Supply voltage	Vac	187 ÷ 264	
Current drawn	mA	90 W	122 W
Operating temperature range		0 ÷ 50° C	

MODEL		SPS 6000-N			SPS 7000-N			SPS 6100+			SPS 7100+	
Reference		66002			67002			66003			67003	
Assembly system		Frame			19" Rack			Frame			19" Rack	
Output voltage ± 5%	Vdc	30	24	17(LNB)	12	5	30	24	17	12	5	
Output current 65,5 W*	A	0,04	0,3	0,6	2,6	3,2	—	—	—	—	—	
Output current 90 W*	A	—	—	—	—	—	0,016	0,4	0,3	2,9	7,9	
Max. absolute current per output**	A	0,2	2,5	3,4	4	4,5	0,15	1,3	0,4	3,8	9,6	
Max. total output power	W	≤ 67						106				
Packing dimensions	mm	295 x 166 x 67										
Weight	Kg	1,45						1,55				

* Example for 5 SRM + 1 SHA + 2 LNB

* Example for 8 SDM + ST,1 SHA, 1 LNB, in SPS + models

** If total power does not exceed 67 W , in SPS-N models

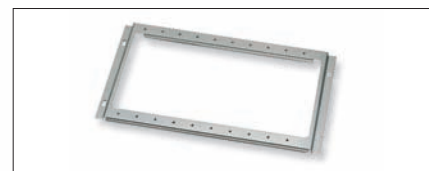
** If total power does not exceed 106 W, in SPS + models

ACCESSORIES

FRAME

Designed for mounting modules of the SCM 6000 system. The kit supplied includes all necessary accessories for wall mounting.
Dimensions: 488 x 275 x 20 mm
Depth with modules: 200 mm

APPLICATION	MODEL	REF.
9 mod. + power supply	BST 608	83600



HOUSING

Designed for installation and protection of SCM 6000 system. Includes all necessary accessories for wall mounting. With safety lock.
Allows KIT VNT 56 (Ref. 83004) to be mounted.
Dimensions: 650 x 410 x 205 mm.
Weight 8 Kg.

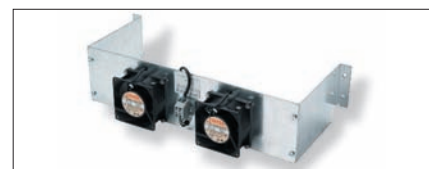
APPLICATION	MODEL	REF.
9 mod. + power supply	CFR N56 V	83605



VENTILATION KIT

Suitable for assembling on the CFR N56 V housing.

APPLICATION	MODEL	REF.
Housing Ref. 83605	VNT 56	83004



19" RACK FRAME

Designed for installation of SCM 7000 system.
Rack or wall mounting.
Size: 6U height.
Dimensions: 483 x 189 x 265 mm.

APPLICATION	MODEL	REF.
9 mod. + power supply	BST 708	83704



COVERS

CC 01: BLIND COVER

Suitable for covering free slots in the 19" Rack frame.

CP 01: CABLE PASSAGE COVER

Blind cover prepared for cable passage.

APPLICATION	MODEL	REF.
19" Rack frame	CC 01	83701
	CP 01	83702

CC 01



CP 01



VENTILATION UNIT-SCM 7000

Suitable for assembling on the Ref.83704 frame.

- Supply voltage: 220 Vac.
- Power consumption: 22 Watts.
- Size: 1U height

APPLICATION	MODEL	REF.
Frame Ref. 83704	VNT 19	83705



MINI DIN CONNECTOR

Mini DIN connector with 5 male plugs for interconnecting Video/Audio signals between modulator and decoder.

TYPE OF CONNECTOR	MODEL	REF.
MINI DIN 5	MDIN 5	84004



ACCESSORIES

75 Ω F LOAD

Coaxial resistive load for loading open connectors.

TYPE OF CONNECTOR	MODEL	REF.
F (m)	CX 75 F	84011



MINI DIN CABLE - EUROCONNECTOR

Mini DIN 5 cable - euroconnector for connecting Video/Audio Stereo signals between modulator and decoder.
Length: 2 m.

TYPE OF CONNECTOR	MODEL	REF.
MINI DIN 5 / Euroconnector	CMD EU-ST	84032



75 Ω F-F COAXIAL BRIDGE

Rigid 75 Ω coaxial bridge for splitting or combining RF signals.
Weight: 47,7 mm.

TYPE OF CONNECTOR	MODEL	REF.
F (m) - F (m)	PMD FF	84031



CONTROL UNIT

Universal control unit designed for programming FAGOR modules.
Packing dimensions: 155 x 110 x 50 mm.
Weight: 0,1 Kg.

TYPE OF CONNECTOR	MODEL	REF.
MINI DIN 8	UCF 100	85100



MINI DIN - 3RCA CABLE

Mini Din 5 / 3RCA cable for connecting Video and Audio Stereo signals to the modulator.
Length: 2 m.

TYPE OF CONNECTOR	MODEL	REF.
MINI DIN 5 / 3 RCA	CDM 3 RCA	84033



PASS FILTER

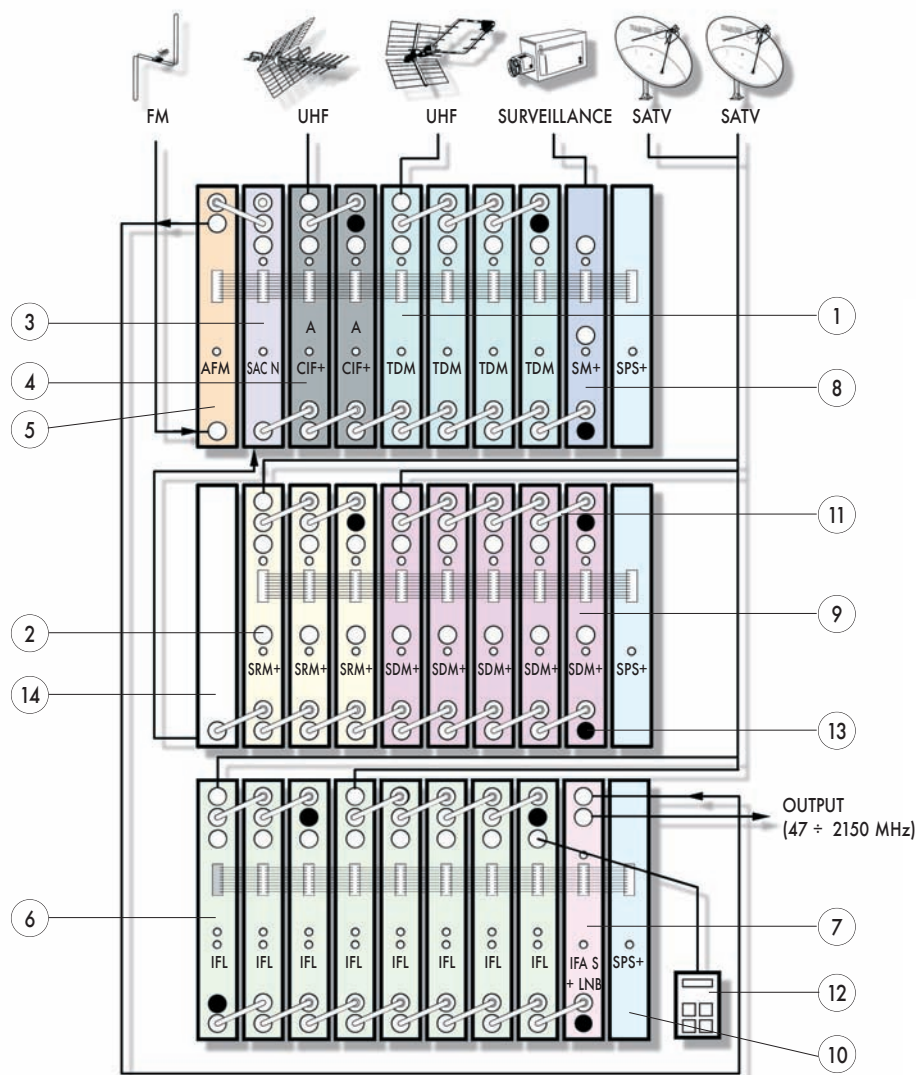
470 mhz PASS FILTER.

TYPE OF CONNECTOR	MODEL	REF.
F (m) - F (f)	FPA 470	85042



APPLICATION EXAMPLES

- 47 ÷ 2150 MHz
- 16 digital satellite TV transponders
- 3 analogue satellite TV programs
- 4 digital terrestrial TV programs
- 2 digital terrestrial TV programs
- 1 surveillance channel
- FM Radio
- 5 digital satellite TV programs



Nr.	DESCRIPTION	SCM 6000	SCM 7000
1	COFDM-PAL Transmodulator - TDM	Ref. 27460	Ref. 27560
2	Receiver - Modulator - SRM+	Ref. 27660	Ref. 27760
3	Amplifier - Combiner - SAC N	Ref. 35018	Ref. 35019
4	Channel Converter via IF - CIF+	Ref. 06410 - 06424	Ref. 07410 - 07424
5	FM Amplifier - AFM	Ref. 35004	Ref. 35005
6	1 st IF SAT Twin Converter - IFL	Ref. 06900	Ref. 07900
7	1 st IF SAT Amplifier - IFA S	Ref. 35914	Ref. 35915
8	VSB Modulator - SM+	Ref. 19650	Ref. 19750
9	QPSK - AM Transmodulator - SDM+	Ref. 27580	Ref. 27880
10	Power Supply - SPS +	Ref. 66003	Ref. 67003
11	75 Ω F-F coaxial bridge - PMD FF	Ref. 84031	
12	Control unit - UCF	Ref. 85100	
13	75 Ω F load - CX 75 F	Ref. 84011	
14	Cable passage cover - CP 01	—	Ref. 83702
•	Frame - BST 608	Ref. 83600	—
•	Housing - CFR N56V	Ref. 83605	—
•	19" Rack frame - BST 708	—	Ref. 83704
•	Ventilation kit - VNT 56	Ref. 83004	—
•	Ventilation unit - VNT 19	—	Ref. 83705



NEXUM DVB-T/H Series

AGC Channel amplifier suitable for channel amplification of the DTT multiplex in MATV systems. The Nexum DVB-T / H series allows operation in adjacent channel, both in VHF and UHF.

APPLICATION

Medium- to large-sized community digital and analogue TV installations located in poor reception areas with big level differences between channels.

CHARACTERISTICS

- Exceptional selectivity and high output level.
- Constant Output Level within the Input Operative Range, maintaining the quality of the signal.
- High shielding degree, metal chassi (zamak) with "F" connectors.
- Modular design that allows channel configuration according to installation needs.
- Easy to set-up due to its system of splitting at input and combining at output.



1
VERY SIMPLE SET UP

2
NO SERVICE INTERRUPTIONS

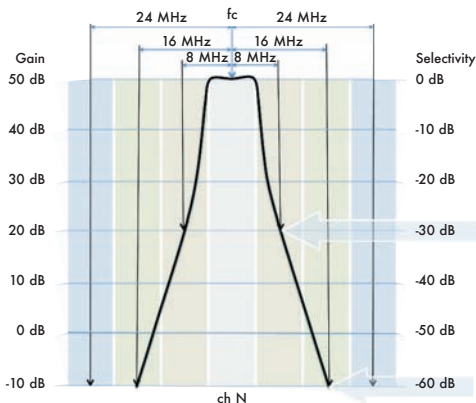
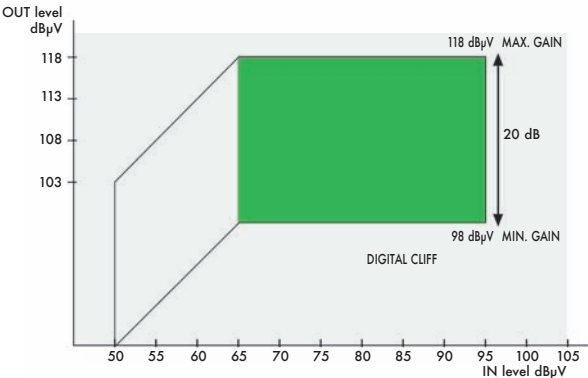
3
QUICK INSTALLATION

4
AUTOMATIC ADAPTATION TO WEAK OR STRONG SIGNALS

Supply voltage	24 Vdc
Current drawn	125 mA
Operating temperature range	0 ÷ 50° C

MODEL		NEX 645
Reference		34121...69
Channels		21...69
Max. output level (DIN K)	dBµV	125
Max. COFDM output level	dBµV	118 IMD3 -35 dB
Gain	dB	53
Manual output regulation	dB	20
Operative input range	dBµV	65...95
Min. input level	dBµV	45
Bandwidth	MHz	8
Selectivity	dB	30 fc N ± 8 MHz 60 fc N ± 16 MHz 70 fc N ± 24 MHz
Return losses	dB	9
Noise figure	dB	11
Packing dimensions	mm	195 x 70 x 32
Weight	Kg	0,45

* MER OUT: 30 dB; MER IN 38 dB, OUT Level 75 ÷ 118 dBµV.



NEX Series

Multichannel amplifier, suitable for amplifying and filtering of TV signals in MATV headend systems. These amplifiers are perfect for working in adjacent channels.

APPLICATION

Medium- to large-sized community digital and analogue TV installations located in poor reception areas with big level differences between channels.

CHARACTERISTICS

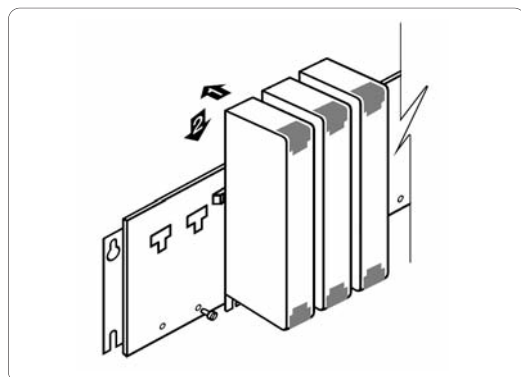
- Metal chassis (zamak), integrating the input/output connectors to give the unit great strength.
- High shielding degree.
- High reliability and screening factor due to "F" connectors.
- Modular design that allows channel configuration according to installation needs.
- The use of filters with high "Q" factor (quality factor) inductive lines guarantees a high channel selectivity.
- Easy to set-up due to its system of splitting at input and combining at output.



Supply voltage	24 Vdc
Current drawn (24 Vdc)	110 mA
Operating temperature range	0 ÷ 50° C

MODEL	NEX 401	NEX 402	NEX 403	NEX DAB	NEX 545 2 channels	NEX 545 3 channels	NEX 545 4 channels	NEX 545 5 channels	
Reference	39102...04	39200	39305...12	39201	39501...20	39580...600	39570	39571	
Channels	E02...E04	FM 87 ÷ 108	E05...E12	DAB 195 ÷ 223	— *	— *	66 ÷ 69	65 ÷ 69	
Max. output level	dBµV	123	115 (DIN B -35 dB)	123	115 (DIN B -35 dB)	112 (2 Ch AM-TV) 109 (2 Ch COFDM)	111 (3 Ch AM-TV) 107 (3 Ch COFDM)	109 (4 Ch AM-TV) 106 (4 Ch COFDM)	108 (5 Ch AM-TV) 105 (5 Ch COFDM)
Gain	dB	—	—	—	50				
Gain adjustment	dB	40	40	35	40	30			
Bandwidth	MHz	7	21	7	28	16	24	32	40
Selectivity									
PVN–PAN-1									
PAN–PVN+1									
PV+20 MHz									
	dB	20	@ -15 MHz 35 23	20	@ -15 MHz 35 23	—	—	N = ch 65 16	N = ch 64 16
		20	@ +15 MHz 20	@ +15 MHz	30 30	—	—		
		>70	30 8	>70	30 8	30	30	—	—
Return losses	dB	9							
Noise figure	dB	11	4	5	5	11			
Input-Output impedance	Ω	75							
Input-Output connectors		F (f)							
Packing dimensions	mm	195 x 70 x 32							
Weight	Kg	0,45							

* Different configurations upon request.



IFA 400

Equalized amplifier for the 950 to 2300 MHz band. Amplifies the 1st IF SAT signal and mixes it with terrestrial channels.

APPLICATION

Community digital and analogue satellite TV installations where the 1st IF SAT signal has to be distributed.

CHARACTERISTICS

- Metal chassis (zamak), integrating the input/output connectors to give the unit great strength.
- High shielding degree.
- High reliability and screening factor due to its "F" connectors.
- Easy to set-up due to its system of splitting at input and combining at output.



Supply voltage	24 (130 mA) Vdc
Current drawn	65 mA
Operating temperature range	0 ÷ 50° C

MODEL		IFA 400
Reference		39204
Frequencies covered	MHz	950 ÷ 2150
Number of inputs 1 st IF		1 (950 ÷ 2150 MHz)
Number of inputs RF		1 (5 ÷ 862 MHz)
Gain (1 st IF)	dB	40 (950 MHz) 48 (2150 MHz)
Noise figure	dB	7
RF signal rejection (1 st IF input)	dB	40 (5 ÷ 862 MHz)
Through losses RF	dB	1,5 (5 ÷ 862 MHz)
Gain adjustment	dB	20 (950 ÷ 2150 MHz)
Output level @2150 MHz	dBμV	125 (DIN 45004B, DIM -35 dBc) 113 (30 transponders, DIM -35 dBc)
Return losses	dB	9
Voltage to LNB		13 V _{DC} / 300 mA
Packing dimensions	mm	195 x 70 x 32
Weight	Kg	0,35

SPS 523

Power supply module for providing operating voltage to the Nexum series modular system.

APPLICATION

Medium- to large-sized community digital and analogue TV installations located in poor reception areas with big level differences between channels.

CHARACTERISTICS

- Designed using switching techniques, achieves high performance and minimum losses.
- Zamak chassis with metal covers.
- High degree of shielding.
- Protected against overloading.
- Complies with the UNE EN 50083-1; UNE EN 50083-2 standard.



MODEL		SPS 523
Reference		69023
Input voltage	Vac	198 ÷ 264
Output voltage	Vac	24 ± 5%
Consumption (55 W output)	VA	70
Max. current output	A	2,3
Operating temperature range	°C	0 - 50
Packing dimensions	mm	205 x 70 x 80
Weight	Kg	0,75

ACCESSORIES

FRAME

Designed for mounting modules of the Nexum Series Modular System. The kit supplied includes all necessary accessories for wall mounting.

Raster: 40 mm.

Dimensions:

Ref. 83109: 531 x 139 x 15 mm.

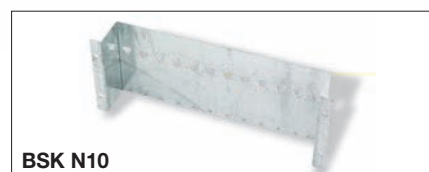
Ref. 83110: 747 x 139 x 15 mm.

Ref. 83111: 480 x 177 x 70 mm.

Ref. 83112: 325 x 140 x 15 mm.

APPLICATION	MODEL	REF.
6 mod. + power supply	BST N06	83112
12 mod. + power supply	BST N12	83109
18 mod. + power supply	BST N18	83110
10 mod. + power supply for 19" Rack mounting	BSK N10	83111

BST N12 and BST N18



BSK N10

HOUSING

Designed for installation and protection of Nexum system. Includes all necessary accessories for wall mounting. With safety lock. Allows KIT VNT 56 (Ref. 83004) to be mounted.

Dimensions:

Ref. 83608: 365 x 165 x 250 mm. (2 Kg)

Ref. 83609: 570 x 165 x 250 mm. (4 Kg)

Ref. 83607: 725 x 165 x 250 mm. (6 Kg)

Ref. 83604: 790 x 209 x 595 mm. (8 Kg)

APPLICATION	MODEL	REF.
6 mod. Nexum+power supply	CFR N106	83608
12 mod. Nexum+power supply	CFR N112	83609
18 mod. Nexum+power supply	CFR N118	83607
Housing for 2x18(2x12) Nexum or 1x18 (1x12) Nexum + 1x8 SCM 6000 ventilation unit 83004	CFR N218	83604



CFR N218 / CFR N118

75 Ω F-F COAXIAL BRIDGE

Rigid 75 Ω coaxial bridge for splitting or combining RF signals.

Raster: 40 mm.

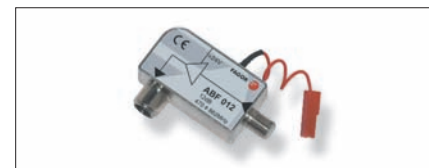
TYPE OF CONNECTOR	MODEL	REF.
F (m) - F (m)	PMD FFN	84034



BAND AMPLIFIER

- Frequency band: 470 to 862 MHz
- Gain: 12 dB
- Max. output level: 105 dBuV
- Noise figure: 3,5 dB
- Band flatness: 2 dB
- Power supply: 24V ± 5%
- Consumption: < 50 mA

TYPE OF CONNECTOR	MODEL	REF.
F(f) - F(m)	ABF 012	85053



SUPPLY INJECTOR

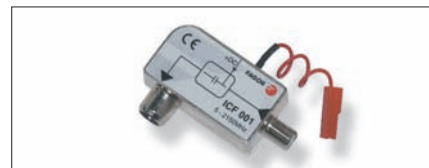
Frequency band: 5 to 2150 MHz

Return losses: -10 dB

Through losses: 0,5 dB

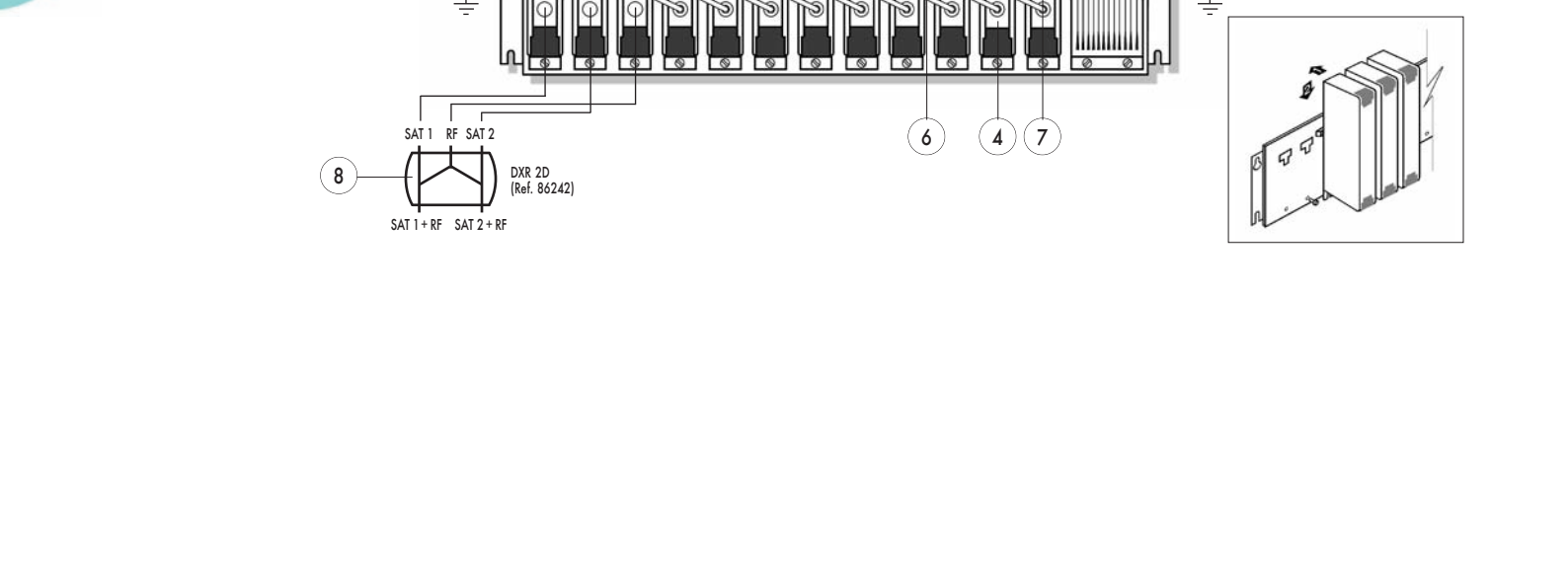
DC pass: 1A

TYPE OF CONNECTOR	MODEL	REF.
F(f) - F(m)	ICF 001	85051



HEADENDS

- ## HEADENDS



Nr.	DESCRIPTION	Nexum Series
1	Channel amplifier - NEX 645 DVB-T/H	Ref. 34121...69
2	1 st IF SAT amplifier - IFA	Ref. 39204
3	Amplifier FM radio - NEX 402	Ref. 39200
4	Amplifier DAB radio - NEX DAB	Ref. 39201
5	Power supply - SPS	Ref. 69023
6	75Ω F-F coaxial bridge - PMD FFN	Ref. 84034
7	Load - CX 75F	Ref. 84011
8	Splitter- Combiner - DRX 2D	Ref. 86242

MicroMATV *Evo* Series

Universal Amplification System for headends with 10 UHF filters, that allows up to 7 configurations with 1, 2 or 3 UHF antennas.

APPLICATION

Designed for large and medium-sized MATV headends.

CHARACTERISTICS

- AES function: patented system which automatically regulates the input signals, guaranteeing a balanced output level.
- AGC function in real time for each input channel.
- Automatic recognition of channel type: digital or analogue.
- Easily programmable with the UCF 200 or UCF 300 control unit, using a simple and intuitive menu. With memory to clone up to 8 different configurations.
- It incorporates amplification of 1st IF SAT. (EVO 200 & 300).
- Auxiliary input for channels processed by other equipment.
- Exceptional screening factor.
- Remote pre-amplifiers powering at U1,U2 and U3.
- TEST output (-30 dB).
- Models with D: LTE optimised.



Consumption	38 W
Supply to LNBs	0V/13V/17V/0Hz/22KHz, 300mA
Mains supply	195 ÷ 265
Working temperature	0-50 °C

INPUTS

Band	FM	BI	BIII/DAB	AUX	UHF1	UHF2	UHF3	(1) 1 st IF SAT
Bandwidth MHz	87,5÷108	47÷68	174÷230	47÷68 130÷862	470÷862	470÷862	470÷862	950÷2150
Number of amplifiers	1	1	1	1	10			1
Filter width	—				Programmable: 1 ÷ 6 channels			—
Configuration of number of amplifiers per input	No				0	10	0	No
					0	9	1	
					0	8	2	
					3	5	2	
					3	6	1	
					3	7	0	
Gain (2)	40	40	40	23	53	53	43	37÷45 (3)
Input Regulation	25	25	25	No	30			—
OUT Regulation	—	20						20
AGC (only AGC models)	No				Programmable			No
Selectivity ± 20 MHz	—				25			—
Noise figure	6	6	8	15	6			15
Operational input level	analogue	71/101	70/95	70/93	90	60-105		70-100
	digital	—	55/80	55/78	75	50-95		60-90
Decoupling between inputs	—				20			—
Remote power (100 mA total)	—				0-24			—

OUTPUTS

OUTPUTS

MODEL	 MMTV® Evo 100 C D 100 C		 MMTV® Evo 100 D 100		 MMTV® Evo 200 C D 200 C		 MMTV® Evo 200 D 200		 MicroMATV® Evo 300 C D 300 C		 MicroMATV® Evo 300 D 300			
	Reference	35581	35541	35571	35531	35582	35542	35572	35532	35583	35543	35573	35533	
Number of outputs	1					1				2				
Band	RF					RF+1 st IF SAT				RF		RF+1 ^a IF SAT		
Bandwidth	MHz	47÷68 130÷862				47÷68 130÷862		950÷2150		47÷68 130÷862		47÷68 130÷862		950÷2150
Output level IM3 DIN45004B (4)	dBµV	123				124		121		120		120		121
Packing dimensions	mm	390 x 275 x 60												
Weight	Kg	4,5												

(1).- 1st IF SAT input (only MicroMATV Evo 200 C and MicroMATV Evo 300 C).

(2).- -4 dB lower (MicroMATV Evo 300 C model).

(3).- Fixed 8 dB slope between begin and end of band.

(4).- -60 dBc for TV PAL and -35 dBc for FM, and 1st IF SAT.

UCF 300

Control unit valid for programming a MicroMATV *EVO* by means of a simple and intuitive menu. With memory for cloning up to 8 different configurations and one-key programming of more than one MicroMATV *EVO*. Includes protector sleeve.



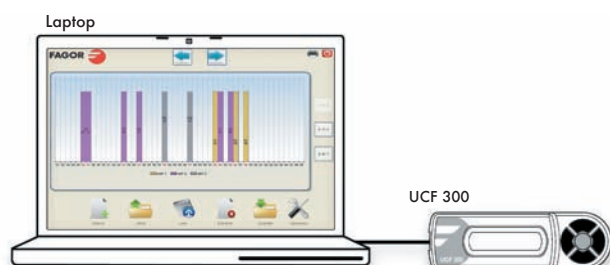
MODEL		UCF 300
Reference		85115
Display		Alphanumerical, (2 x 16 characters)
Packing dimensions	mm	46 x 18 x 14
Weight	Kg	0,2

USB BUS ADAPTER

BUS ADAPTER 1.7

Communication interface between computer and UCF 300 control unit for:

- Automatic programming of the MicroMATV *EVO* by means of the "Programming Guide".
- Recording of configurations/installations in the computer.
- Export of configurations to the UCF 300 control unit for future installations.



MODEL		BUS ADAPTER 1.7
Reference		85103
Packing dimensions	mm	165 x 65 x 50
Weight	Kg	0,2



MicroMATV Book

Programmable selective amplifier for receiving analogue and digital signals in single-family homes and small communities. All programming can be carried out quickly and easily by means of the keypad and display on the unit itself.

APPLICATION

Suitable for small- and medium-sized installations. Ideal for use in low cost community projects.

CHARACTERISTICS

- 2 programmable UHF inputs distributed between 5 programmable filters with width of up to 7 channels per filter, giving a total capacity of 7x5=35 channels.
- 1 BI/BIII/DAB input.
- 1 FM input.
- 1 auxiliary input.
- Output level directly programmable from keypad.
- 4-digit display and 5-key keypad incorporated.
- UHF and VHF filter extension module.
- 3 additional filters with Book Extend.
- MicroMATV Book D (Ref. 35559): LTE optimised.



MODEL	MicroMATV Book				
Reference	35556				
Band	BI/BIII/DAB	UHF		AUXILIAR	FM
Nº inputs	1	2		1	1
Nº filters	Broadband	5 programable		Broadband	Broadband
Input and filter configuration	—	UHF 1 5 4 3	UHF 2 0 1 2	—	—
Bandwidth MHz	47 ÷ 68 174 ÷ 230	470 ÷ 862		47 ÷ 862 132 ÷ 862	87,5 ÷ 108
Programmable filter width (channels)	—	1 ÷ 7		—	—
Gain dB	35	45 (35)		18	30
Independent regulation per filter	dB	30		—	30
Selectivity N (+20 MHz)	dB	20		—	—
Noise figure	dB	9		—	6
Operational input level - Analogue - Digital	dBµV	70 ÷ 93 60 ÷ 83	60 ÷ 83 / (70 ÷ 93) 50 ÷ 73 / (60 ÷ 83)	90 80	71 ÷ 101 —
Output level DIN 45004B -60 dBc	dBµV	114			105
Operational output level for 10 analogue channels	dBµV	107			—
Operational output level for 10 digital channels	dBµV	97			—
Programmable DC pass 0 / 12 / 24 VDC	mA	—	50	50	—
Supply voltage	V	230 ± 15%			
Current drawn máx.	W	17			
Operating temperature	°C	0 ÷ 50			
Dimensions	mm	280 x 220 x 63			
Weight	Kg	1,35			

MODEL	Book Extend 0.3	Book Extend 3.0
Reference	35565	35568
Band MHz	470 ÷ 862	174 ÷ 240
Number of filters	3	
Dimensions mm	160 x 140 x 40	
Weight Kg	0,48	

3 ADDITIONAL FILTERS

Book Extend





MicroMATV Book 5+3

This module adds three filters to MicroMATV Book 5+3 allows to configure an 8 filters programmable headend. UHF filters are configurable in width between 1 and 7 channels.

APPLICATION

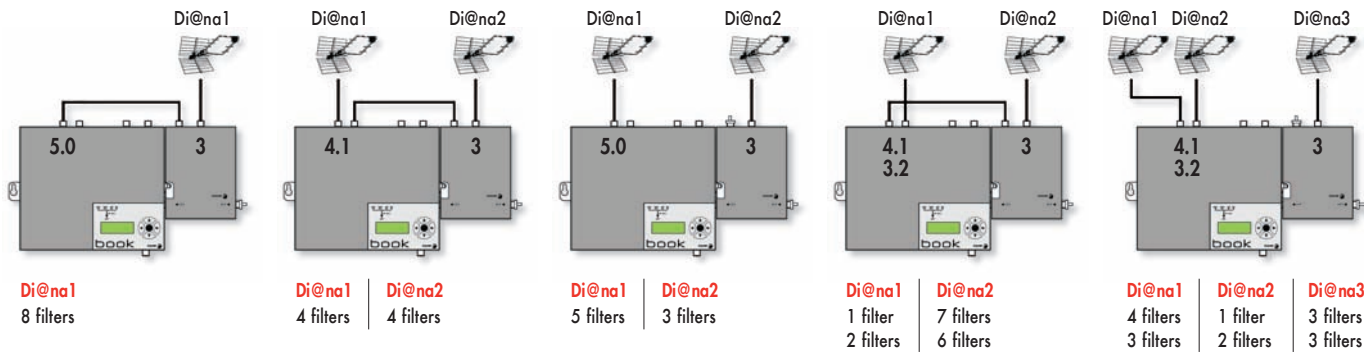
Suitable for small-and medium-sized installations. Ideal for use in low cost community projects.

CHARACTERISTICS

- 8 programmable filters with a programmable width of 7 channels per filter.
- Auxiliary input for channels processed by other equipment.



MODEL	MicroMATV Book 5+3					
Reference	35558					
Bands	FM	BI/BIII/DAB	UHF			AUXILIAR
Nbr. of inputs	1	1	1	2	3	1
Nbr. of filters	Broadband	Broadband	8 program.			Broadband
Input and filter configuration	—	—	UHF 1 5 4 3	UHF 2 0 1 2	U 3 3 3 3	—
Bandwidth MHz	87,5 ÷ 108	47 ÷ 68 132 ÷ 862	470 ÷ 862			47 ÷ 68 132 ÷ 862
Programmable filter width (channels)	—	—	1 ÷ 7			—
Gain dB	30	35	45 (35)			18
Independent regulation per filter	dB	30	30			—
Selectivity N (± 20 MHz)	dB	—	20			—
Noise figure	dB	6	9			—
Operational input level - Analogue - Digital	dBµV	71 ÷ 101 —	60 ÷ 83 / (70 ÷ 93) 50 ÷ 73 / (60 ÷ 83)			90 80
Output level DIN 45004B -60 dBc	dBµV	105	114			
Operational output level 10 analogue channels	dBµV	—	107			
Operational output level 10 digital channels	dBµV	—	97			
DC pass 0 / 12 / 24 VDC programmable	mA	—	50	50	50	—
Supply voltage	V	230 ± 15%				
Current drawn	W	17				
Operating temperature range	°C	0 ÷ 50				
Dimensions	mm	360 x 220 x 80				
Weight	Kg	1,85				



ACCESSORIES

DOUBLE TRAP FILTER

Frequency band: 470 ÷ 862 MHz
 In band return losses
 (out of notch filter): >10 dB
 Rejection at central frequency (Fc): 18 dB at 470 MHz / 10 dB at 862 MHz
 Rejection at $F_c \pm 12$ MHz: 2 dB
 In band through losses: <1 dB
 DC pass: 1 A

TYPE OF CONNECTOR	MODEL	REF.
F(f) - F(m)	FTF 245	85052



BAND AMPLIFIER

Frequency band: 470 ÷ 862 MHz
 Gain: 12 dB
 Flatness: 2 dB
 Noise figure: 3,5 dB
 Power supply: 24 V $\pm$ 5%
 Consumption: <50 mA
 Output level: 105 dB μ V

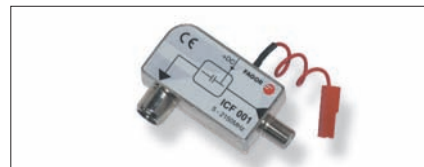
TYPE OF CONNECTOR	MODEL	REF.
F(f) - F(m)	ABF 012	85053



SUPPLY INJECTOR

Frequency band: 5 ÷ 2150 MHz
 Return losses: -10 dB
 Through losses: 0,5 dB
 DC pass: 1 A

TYPE OF CONNECTOR	MODEL	REF.
F(f) - F(m)	ICF 001	85051



ADJUSTABLE ATTENUATOR

Frequency band: 5 ÷ 2150 MHz
 Return losses: -10 dB
 Through losses: 0,5 to 20 dB
 DC pass (0-22 KHz): 1 A

TYPE OF CONNECTOR	MODEL	REF..
F(f) - F(m)	ATF 020	85050



FIXED ATTENUATOR

Covered band: 5 ÷ 2400 MHz
 Return losses: -10 dBDC Block

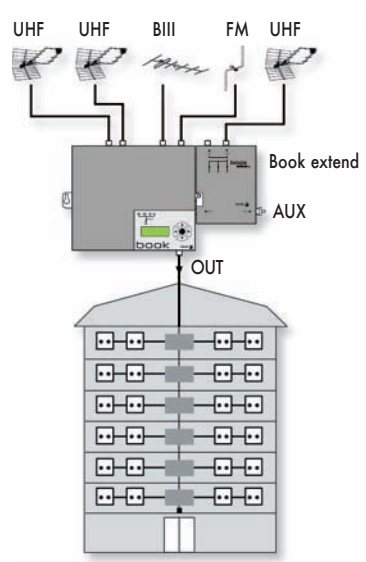
TYPE OF CONNECTOR	MODEL	REF..
F(f) - F (m)	FAT 010	85041



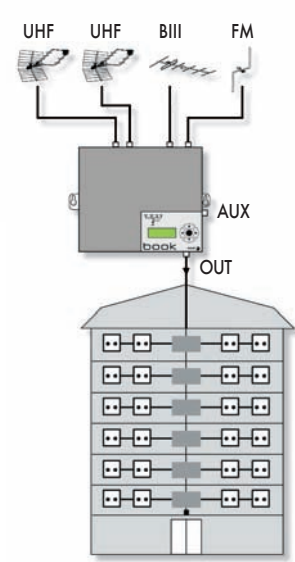
APPLICATION EXAMPLES

HEADENDS

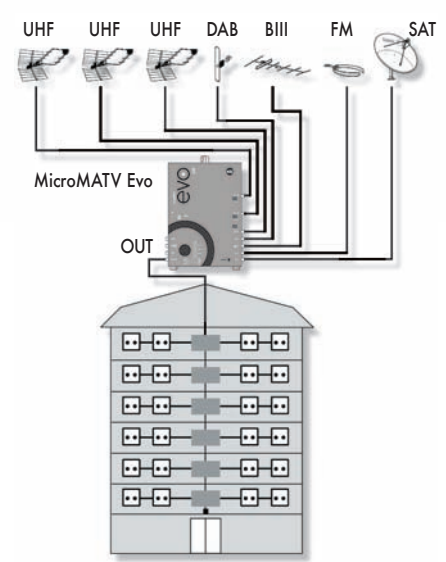
Book Extend
5+3 filters UHF



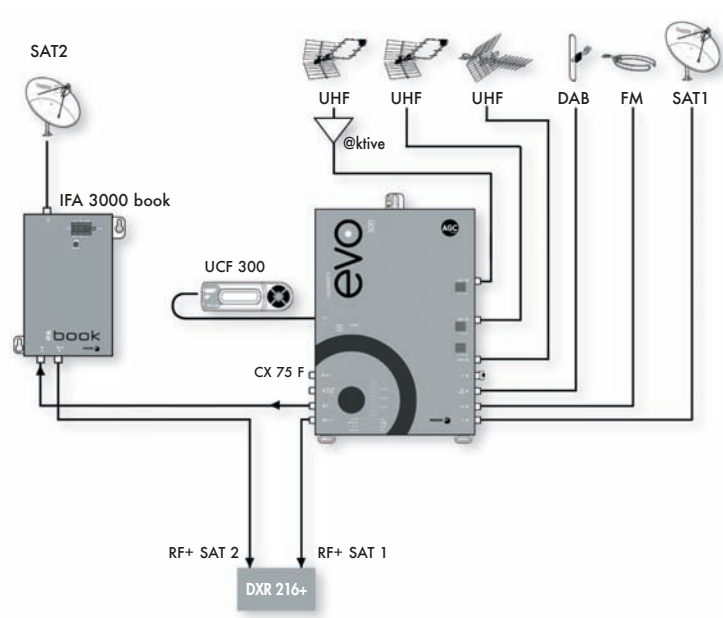
MICROMATV Book
5 filters UHF



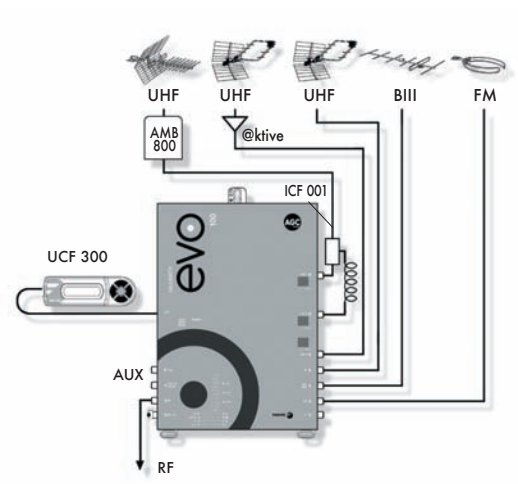
MicroMATV EVO 300
10 filters UHF



MicroMATV EVO 300 + IFA 3000 book



MicroMATV EVO 100



SABAL Series

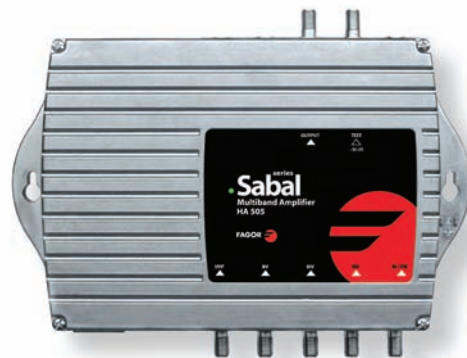
Amplifiers specially designed for distribution of TV signals up to 862 MHz.

APPLICATION

Designed to work under adverse weather conditions, where a robust amplifier is needed.

CHARACTERISTICS

- Their circuit is integrated in a Zamak box, which ensures correct operation of the amplifier.
- HA 50x models: LTE Ready.
- The amplifier has been optimised by specific circuits which protect it against telecommunications services on adjacent frequency bands.
- Integrates a switch mode power supply to reduce the inside temperature and help extend the life of the equipment.



Supply voltage	230 Vac $\pm$ 15 %
Operating temperature range	0 $\div$ 50° C

MODEL	HA 405					HA 503			HA 504				HA 505					
Reference	35945					35943			35942				35941					
Inputs	BI	FM	BIII	UHF	UHF	BI/FM	BIII	UHF	BI/FM	BIII	UHF	UHF	BI/FM	BIII	BIV	BV	UHF	
Covered frequencies	MHz	47-68	87,5-108	174-230	470-862	470-862	47-108	174-230	470-862 470-790**	47-108	174-300	470-862 470-790**	470-862 470-790**	47-108	174-300	470-582	590-862 590-790**	470-862 470-790**
Output level*	dBμV	116				117	125		117	125		117	125					
Gain	dB	40	30	40		38	50		38	50		38	50					
Gain regulation	dB	20																
Test output	dB	-30																
Noise factor	dB	4,5	5,5	7,5	6,5	5,5	4,5	6,5	5,5	4,5	6,5	5,5	4,5	6,5				
DC pass 12 Vdc	mA	No						100			100			100				
Weather protection		IP63																
Power	Vac	195÷265																
Power comsuption (max)	W	12				16			18				20					
Packing dimensions	mm	280 x 175 x 60																
Weight	Kg	3,1																

* UHF: DIN 45004 B (-60 dB)

** 790/862 MHz selectable by a switch

SAB Series

Band amplification system with separate VHF and UHF signal processing, to reduce the IM2 products.

APPLICATION

Designed as band amplifier for community installation.

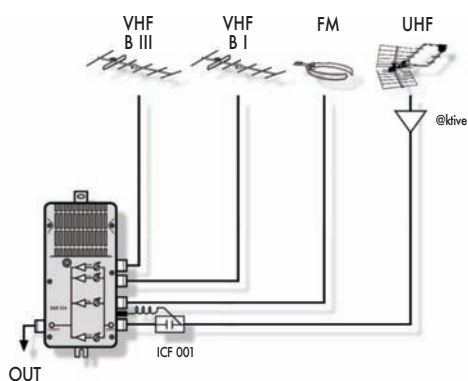
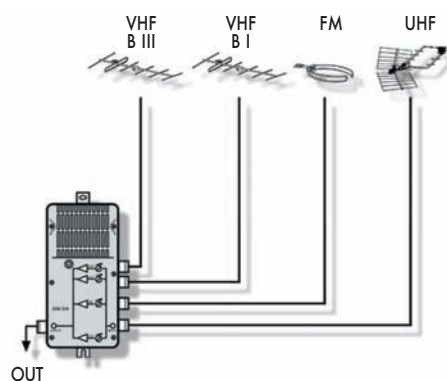
CHARACTERISTICS

- The circuit is housed in a single-part metal case which includes all the input-output connectors.
- It has shielding at the top and bottom.
- High level of mechanical rigidity and complete protection against electrical interference.



Supply voltage	230 Vac -10 % +15%
Current drawn	10 VA
Operating temperature range	0 ÷ 50° C

MODEL	SAB 304	SAB 404
Reference	35304	35404
Number of inputs	4	4
Band coverage	BI / FM / BIII / UHF	BI / FM / BIII / UHF
Output level DIN 45004B (-60 dB)	109	117
Gain	30	40 / 33 / 40 / 40
Input and output impedance	75	75
Noise figure	5	5
Regulation	20	20
Auxiliary output + 24v	20	—
Packing dimensions	250 x 125 x 62	
Weight	0,8	

SAB 304**SAB 404**

SUMMA Series

Medium-power amplifiers designed for distribution of terrestrial and satellite TV signals.

APPLICATION

Suitable for headend amplification of the signal coming from multiple antennas in community installations.

CHARACTERISTICS

- Supply to pre-amplifiers at UHF inputs: 0/12/24 Vdc, switch selectable.
- Regulation by attenuators for higher linearity (on models with 20dB of regulation).
- Interstage attenuation on all models to ensure optimum noise figure in any situation.
- Adapted to the digital dividend, UHF higher frequency switchable between 790 and 862 MHz.
- SAT input models: Model 538S FMA signal generator available for LNB control: 0/13/18V, 0/22KHz and others allow the passage of the signal from an individual receiver.
- Switching power supply, which reduces consumption and indoor temperature, and guarantees a long life of equipment.
- Robust metal box.
- Test output: - 30 dB of output level.



Input power supply	230 Vac $\pm$ 15%
Operating temperature	0 $\div$ 50 $^{\circ}$ C
Packing dimensions	257 x 147 x 89 mm
Weight	0,95 Kg

MODEL	FMA 238		FMA 338		FMA 430			
Reference	35954		35955		35950			
Nbr. of inputs	2		2		4			
Band	FM;DAB	UHF	FM;DAB	UHF	BI-FM	BIII;DAB	UHF	SAT
Band coverage MHz	88 $\div$ 108 174 $\div$ 230	470 $\div$ 790/ 470 $\div$ 862**	88 $\div$ 108 174 $\div$ 230	BI:V: 470 $\div$ 590/ BV: 614 $\div$ 790/ 614 $\div$ 862**	47 $\div$ 108	174 $\div$ 230	470 $\div$ 790/ 470 $\div$ 862**	950 $\div$ 2300
Gain dB	24	38	24	38	15	20	30	-2
Regulation dB	20		20		15			
Noise figure dB	6		6		7		6	—
Output level * dB μ V	110	116	110	116	106		112	—
Power supply 0/12/24 V mA	—	80	—	80	—	—	50	—

MODEL		FMA 430 S				FMA 438			
Reference		35951				35953			
Nbr. of inputs		4				4			
Band		BI-FM	BIII;DAB	UHF	SAT	BI-FM	BIII;DAB	UHF	UHF
Band coverage	MHz	47÷108	174÷230	470÷790/ 470÷862**	950÷2300	47÷108	174÷230	470÷790/ 470÷862**	470÷790/ 470÷862**
Gain	dB	15	20	30	20(950 MHz) 25(2150 MHz)	28	30	38	
Regulation	dB	15				15			
Noise figure	dB	7		6	10	7		9	
Output level *	dBμV	106		112	115	110		116	
Power supply 0/12/24 V	mA	—	—	50	—	—	—	90	

MODEL	FMA 538					FMA 538 S				
Reference	35956					35952				
Nbr. of inputs	5					5				
Band	BI-FM	BIII;DAB	UHF1(25-35)	UHF2(36-69)	UHF	BI-FM	BIII;DAB	UHF	UHF	SAT
Band coverage MHz	47÷108	174÷230	470÷582	582÷790/ 582÷862**	470÷790/ 470÷862**	47÷108	174÷230	470÷790/ 470÷862**	470÷790/ 470÷862**	950÷2300
Gain dB	28	30	38			28	30	38		31(950 MHz) 38(2150 MHz)
Regulation dB	20					20				
Noise figure dB	7		9			7		9		10
Output level * dBµV	106		116			110		116		120
Power supply 0/12/24 V mA	—	—	90			—	—	90		—

* Terrestrial: DIN 45004 B (-60 dB) SAT: DIN 45004 B (-35 dB).

** UHF frequency between 790 and 862 MHz switchable.

SUMMA BASIC Series

Amplifiers designed for the distribution of TV signals up to 862 MHz or 790 MHz.

APPLICATION

Suitable for headend amplification of the signal coming from multiple antennas in individual or community installations, medium or small sized.

CHARACTERISTIQUES

- Modern design and small size, making it easier to install.
- Amplification and independent regulation per input.
- High performance switching power supply, which provides a high output current with less consumption, and guarantees a long life product.
- Various models with DC pass.
- LED power indicator.



Power supply	230 Vac -15% +10%
Working temperature	0 ÷ 50° C
Packing dimensions	150 x 130 x 50 mm
Weight	0,34 Kg

MODEL	FMB 113	FMB 112C	FMB 132		FMB 233		FMB 233 L		FMB 232		FMB 242 L	
Reference	35303**	35306**	35307**		35308**		35309		35310		35311	
Nbr. of inputs	1				2							
Band	UHF	UHF	BI;BIII	UHF	BI;FM;BIII	UHF	FM	BIII;UHF	BI;BIII	UHF	BI;BIII;UHF	UHF
Gain	dB	38	28	38	28	38	28	28/38	27	27	27	27
Regulation	dB	15	15	25	25	15	25	25/15	15	15	15	15
Noise figure	dB	3	4	3	5	3	5	5/3	5	3	8	8
DC pass	—	24 Vdc, 40 mA switchable	—		—		—		—		—	
Output level *	dBμV	114			114		114		108	114	110	
Output test	dB	-30			-30		-30		-30		—	

MODEL	FMB 343			FMB 333			FMB 342 C			FMB 342 CB			FMB 342			
Reference	35312**			35313**			35315			35316			35317			
Nbr. of inputs	3															
Band	BI÷FM;BIII	UHF	UHF	BI÷FM	BIII	UHF	FM	BIII-DAB	UHF	BI;BIII	UHF	UHF	BI;BIII	UHF	UHF	
Gain	dB	28	38	38	28	28	38	18	18	28	27	27	27	20	27	27
Regulation	dB	25	15	15	25	25	15	15	15	15	15	15	15	15	15	15
Noise figure	dB	5	6	6	5	5	3	5	6	4	5	6	6	7	7	7
DC pass	—			—			—		24Vdc, 40 mA switchable	—		12Vdc, 40 mA	12Vdc, 40 mA	—		
Output level *	dBµV	114			114			114			114			110		
Output test	dB	-30			-30			-30			-30			—		

MODEL		FMB 442 C				FMB 443 C				FMB 452			
Reference		35318				35319				35320			
Nbr. of inputs		4											
Band		FM	BIII-DAB	UHF1***	UHF2***	FM	BIII-DAB	UHF1***	UHF2***	BI/BIII	UHF1(21-35)	UHF2(36-69)	UHF
Gain	dB	15	20	26	26	15	26	36	36	27	27	27	27
Regulation	dB	20	20	15	15	20	20	15	15	15	15	15	15
Noise figure	dB	4	4	4	4	4	4	3	3	5	6	7	7
DC pass		—		24Vdc, 30 mA switchable	24Vdc, 30 mA switchable	—		24Vdc, 30 mA switchable	24Vdc, 30 mA switchable	—			
Output level *	dBμV	106		111		106		111		108		114	
Output test	dB	—											

* DIN 45004B (-60dB)

** Available models adapted to the digital dividend: FMB 112CD, FMB 113D, FMB 132D, FMB 333D, FMB 233D (without FM).

*** Configurable inputs, on request.



IFA 3000 Book

1st IF SAT amplifier with programmable supply voltage for a Universal LNB and diplexed combining of the VHF and UHF channels.

APPLICATION
Community satellite TV installations with IF processors.

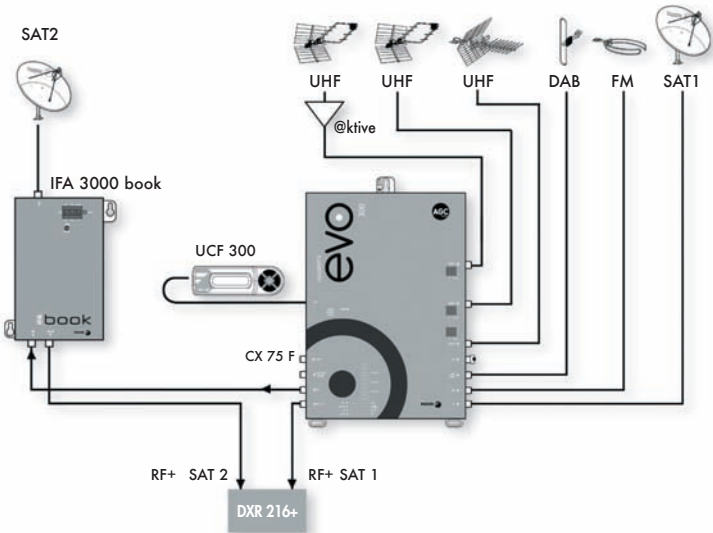
- CHARACTERISTICS**
- A high performance RF / 1st IF SAT diplexer guarantees a noise free terrestrial TV reception.
 - It provides optional supply voltage for the LNB, any possibility (0, 13, 17 V // 0, 22 KHz).
 - The 1st IF SAT amplification with positive slope (more gain in high frequencies: 8 dB) to compensate the cable attenuation, allows distribution of the 1st IF SAT signal to more users.



Supply voltage	195-265 Vac
Current drawn	12 W
Operating temperature range	0 ÷ 50° C

MODEL		IFA 3000 BOOK
Reference		35911
Input/Output connectors		F (f)
Number of inputs		1 input 1 st IF SAT + 1 input RF
LNB DC pass	mA	0, 13, 17 V // 0, 22 KHz (250 mA)
1 st IF SAT Frequency range	MHz	950 ÷ 2300
1 st IF SAT input rejection	dB	40 @ 5 ÷ 862 MHz
RF Frequency range	MHz	5 ÷ 862
RF Through losses	dB	1,5
Output band covered	MHz	5 ÷ 2300
IF Input level	dBµV	68 - 88
1 st IF SAT Gain	dB	35 @ 950 MHz 47 @ 2150 MHz
Gain regulation	dB	20
Noise figure	dB	8
Output level @ 2150 MHz	dBµV	120 (DIN 45004B, -35 dBc) / 110 (15 transponders)
Packing dimensions	mm	103 x 171 x 23
Weight	Kg	0,75

MicroMATV EVO 300 + IFA 3000 book



FMS A Series

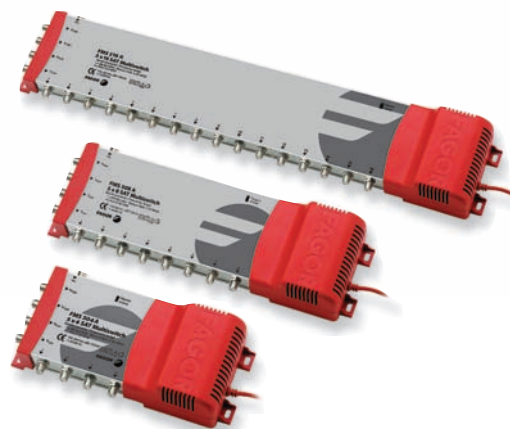
Shielded SAT-IF stand alone multiswitches.

APPLICATION

For distributing one or two satellites signals in small and medium size installations. Each user receives both satellite and terrestrial signal by only one coaxial cable and any satellite polarisation can be selected from each user's receiver.

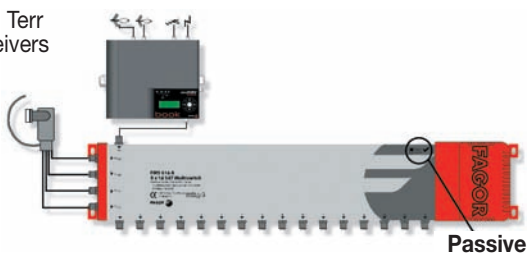
CHARACTERISTICS

- Star distribution of 4 or 8 satellite polarizations.
- Input for terrestrial signal, which can be selected in active or passive mode.
- 5-65 MHz return path.
- For 4, 8 or 16 users distributions.
- Control by voltage/tone from the user's receiver. Models with 8 inputs support also DiseqC2.0.
- The high selectivity of the input filters guarantee the maximum quality of the signal.



FMS 516 A + MicroMATV book

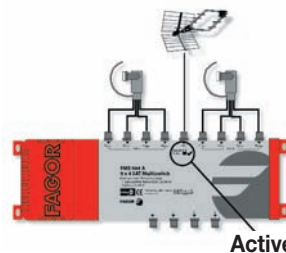
- 4 pol + Terr
- 16 receivers



Passive

FMS 904 A

- 8 pol + Terr
- 4 receivers



Active

MODEL		FMS 504 A	FMS 508 A	FMS 512 A	FMS 516 A	FMS 904 A	FMS 908 A	FMS 912 A	FMS 916 A	
Reference		86410	86411	86419	86412	86413	86414	86420	86415	
Inputs		4 Sat. + 1 Terr				8 Sat. + 1 Terr				
Outputs		4	8	12	16	4	8	12	16	
Frequency Range	Return Path Terr SAT	MHz	5 - 65 88 - 862 950 - 2150							
Gain	Return Path Terr Passive * Terr Active * SAT	dB	-15 -17 5 ± 2.0 -4 ± 2.0	-18 -20 2 ± 2.0 -6 ± 2.0	-20 -22 -2 ± 2.0 6 ± 2.0	-22 -24 -1 ± 2.0 2 ± 2.0	-16 -19 3 ± 2.0 2 ± 2.0	-16 -20 3 ± 2.0 1 ± 2.0	-20 -22 3 ± 2.0 1 ± 2.0	-22 -24 4 ± 2.0 0 ± 2.0
Max. output level	Terr Active * SAT	DIN 45004B - 60 dB DIN 45004B - 35 dB	dBμv	90 105						
Rejection between inputs	Terr to SAT SAT to Terr SAT -SAT	dB	30 35 30							
Isolation between outputs		dB	30							
Polarisation control		13Vdc / 18Vdc • 0 / 22 KHz								
Satellite control		—		—	—	—	DiseqC2.0			
Max. LNBS current	mA		600			1000				
Input return losses		dB	10							
Output return losses		dB	10							
Connectors		F (h)								
Current consumption from receiver		mA	Max. 65		Max. 70					
Supply voltage		Vac	230 ± 15% / 50 Hz							
Power consumption without LNB	Terr Passive * Terr Active *	W	2,2 2,8	2,2 2,8	2,2 3,6	2,2 3,6	3,8 4,8	3,8 4,8	4,2 4,2	4,2 4,2
Operating temperature range		°C	-10 a 55							
Packing dimensions		mm	285 x 131 x 63	357 x 131 x 63	458 x 131 x 63	558 x 131 x 63	357 x 131 x 63	357 x 131 x 63	458 x 131 x 63	558 x 131 x 63
Weight		Kg	0,71	0,90	0,96	0,96	0,92	1,42	1,42	1,36

* Terr Active or Passive selectable by switch..

FMS A Series

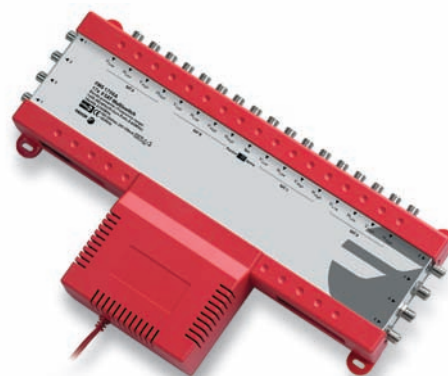
Shielded SAT-IF stand alone multiswitches. 16 SAT input + 1 Terrestrial input.

APPLICATION

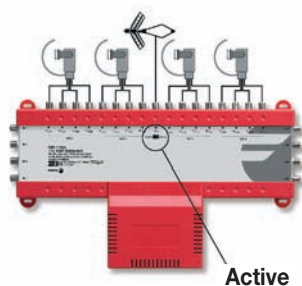
For distributing four satellites signals in small and medium size installations. Each user receives both satellite and terrestrial signal by only one coaxial cable and any satellite polarisation can be selected from each user's receiver.

CHARACTERISTICS

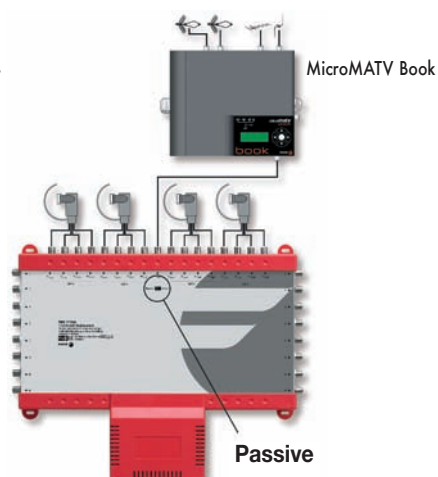
- Star distribution of 16 satellite polarizations.
- Input for terrestrial signal, which can be selected in active or passive mode.
- 5-65 MHz return path.
- For 8, 12 or 16 users distributions.
- Control by voltage/tone from the user's receiver. Satellite selection through DiseqC 2.0.
- The high selectivity of the input filters guarantee the maximum quality of the signal.

**FMS 1708 A**

- 16 pol + Terr
- 8 receivers

**FMS 1716 A**

- 16 pol + Terr
- 16 receivers



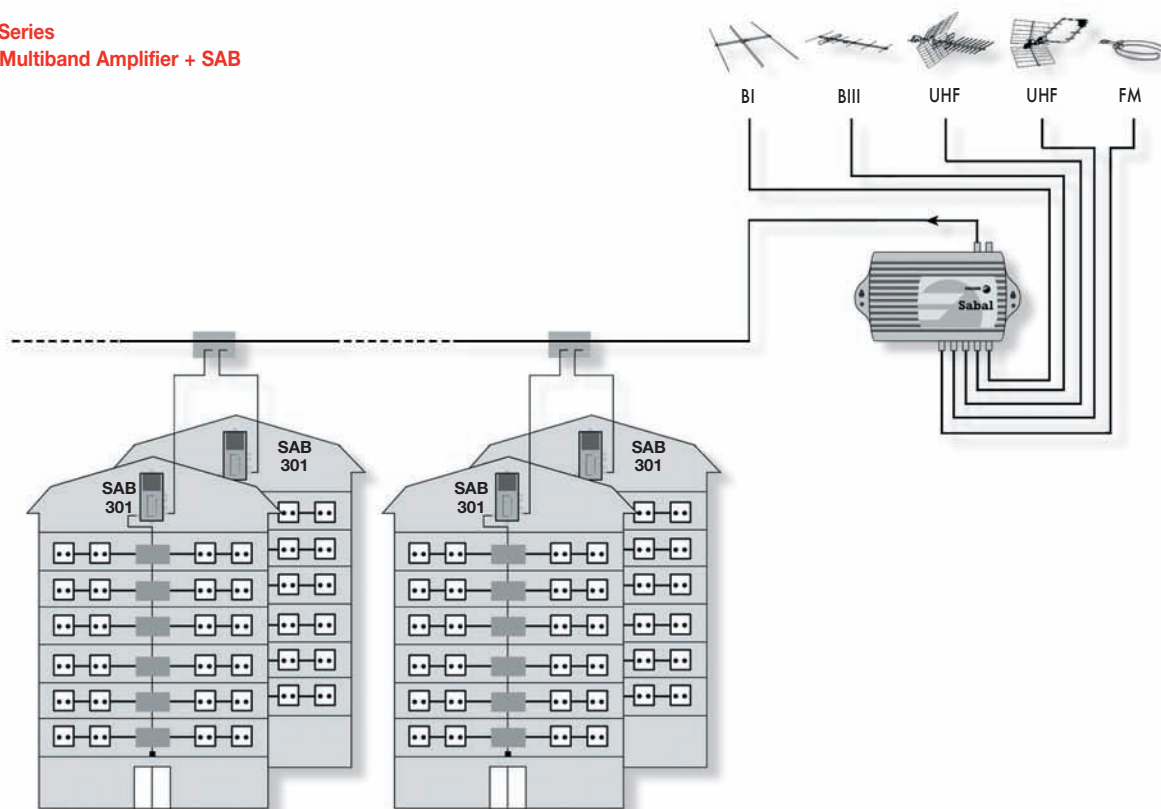
MODEL			FMS 1708 A	FMS 1712 A	FMS 1716 A
Reference			86421	86422	86423
Inputs			16 Sat. + 1 Terr		
Outputs			8	12	16
Frequency Range	Return Path Terr SAT	MHz	5 ÷ 65 88 ÷ 862 950 ÷ 2150		
Gain	Return Path Terr Passive * Terr Active * SAT	dB	-22 -23 -2 ± 2.0 0 ± 2.0	-23 -28 -4 ± 2.0 0 ± 2.0	-26 -30 2 ± 2.0 0 ± 2.0
Max. output level	Terr Active* SAT	- 60 dB IM3 - 35 dB IM3 dBμV	90 105		
Polarisation control			Vdc / 18 Vdc • 0 / 22 KHz		
Satellite control			DiseqC2.0		
Max. LNBs current			1.500		
Current consumption from receiver			Max. 100		
Supply voltage			230 ± 15% / 50 Hz		
Operating temperature range			-10 to 55		
Packing dimensions			400 x 240 x 70	400 x 330 x 70	400 x 330 x 70
Weight			1,660	2,355	2,385

* Terr Active or Passive selectable by switch.

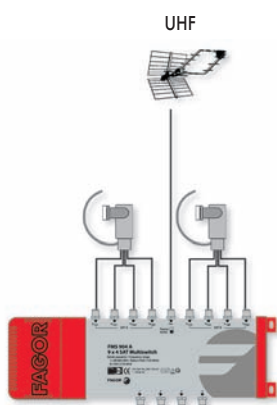
APPLICATION EXAMPLES

HEADENDS

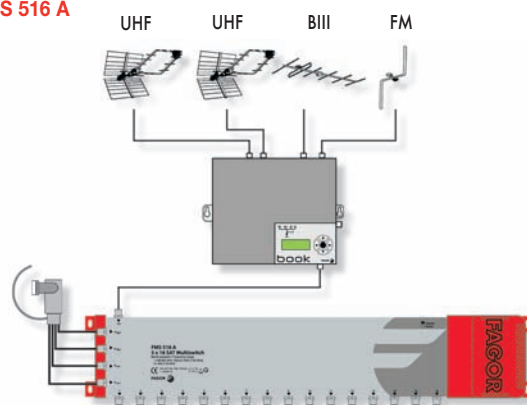
SABAL Series
HA 405 Multiband Amplifier + SAB



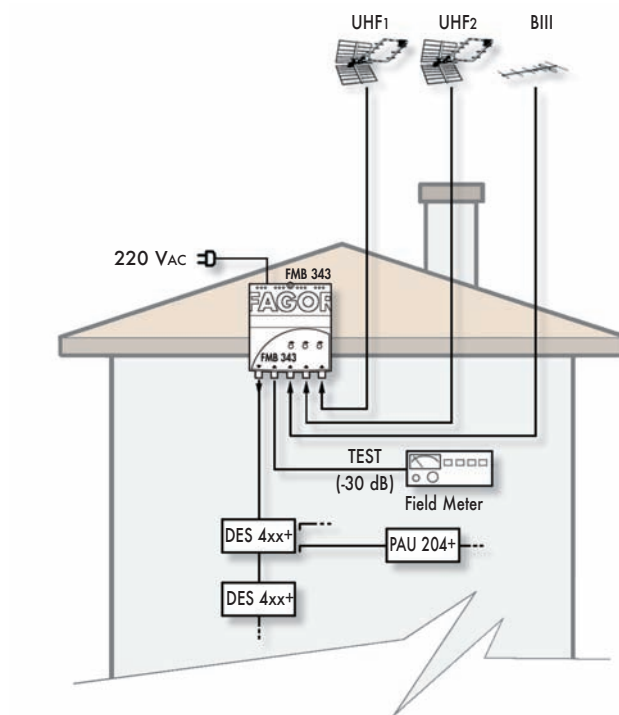
FMS 904 A



FMS 516 A



Application Example Summa Basic series





amplification
consumer go



A whole range of products from simple equipment for individual installations to indoor amplification.

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AMB 800 Series

Professional mast amplifiers, immune to all signals from other services which share the radioelectric spectrum, such as mobile phones, wireless transmissions, terrestrial communications....

APPLICATION

Suitable for individual systems or small installations, with high sensitivity and output power (114 dBμV), the AMB 800 is a heavy-duty amplifier, ideal for future applications according to new Digital Terrestrial TV (DTT) requirements. It is prepared to process both analogue and digital signals during the migration towards DTT.

CHARACTERISTICS

- Very low noise figure and independent from gain regulation
- The mechanical solution guarantees an exceptional immunity against noise invasion, a critical aspect for DTT reception.
- 3 Notch filters can be adjusted over the whole UHF band, or even in their extremes to achieve an additional rejection to unwanted signals.
- F connectors.
- Output level Test.
- Wide range of input levels.
- AMB 802 DC, AMB 836 with DC pass for pre-amplifiers.



Supply voltage		24 ± 10% Vdc
Operating temperature range		- 20 ÷ 60° C
Selective equalization	3 tuneable UHF filters in main amplification line	
Notch 1	390 MHz	12
	660 MHz	7
Notch 2	445 MHz	16
	720 MHz	7
Notch 3	600 MHz	4
	975 MHz	11

MODEL	AMB 801	AMB 802 DC**	AMB 810		AMB 820		AMB 823	
Reference	36011	36012	36010		36020		36023	
Nbr. of inputs	1				2			
Bands	UHF	UHF	BI;BIII	UHF	BI;BIII	UHF	BI÷FM;BIII	UHF
Gain dB	38	28	28	38	28	38	28	38
Gain regulation dB	15	15	25	15	25	15	25	15
Output level DIN 45004B-60 dBµV	114							
Input/output impedance Ω	75							
Noise figure dB	3	4	5	3	5	3	5	3
Rejection out of band dB	Compliance with EN 50083-2 "Antenna Input Resistance" • Internal immunity against unwanted signals from out of band							
Test output dB	−30 dB (from main output)							
Current drawn mA	93	70	93					
Packing dimensions mm	170 x 105 x 50							
Weight Kg	0,355							

MODEL		AMB 824		AMB 830			AMB 831		
Reference		36024		36030			36031		
Nbr. of inputs		2		3					
Bands		FM	BIII;UHF	BI÷FM;BIII	UHF	UHF	BI;BIII	UHF	UHF
Gain	dB	28	28/38	28	38	38	28	38	38
Gain regulation	dB	25	25/15	25	15	15	25	15	15
Output level DIN 45004B-60	dBµV	114							
Input/output impedance	Ω	75							
Noise figure	dB	5	3/5	5	6	6	5	6	6
Rejection out of band	dB	Compliance with EN 50083-2 “Antenna Input Resistance” • Internal immunity against unwanted signals from out of band							
Test output	dB	–30 dB (from main output)							
Current drawn	mA	100		93					
Packing dimensions	mm	170 x 105 x 50							
Weight	Kg	0,355							



AMB 800 Series

MODEL	AMB 835			AMB 836*			AMB 840				
Reference	36035			36047			36055				
Nbr. of inputs	3						4				
Bands	BI÷FM	BIII	UHF	FM	BIII-DAB	UHF	BI÷FM;BIII	UHF	UHF1	UHF2	
Gain	dB	28	28	38	18	18	28	28	34	33	33
Gain regulation	dB	25	25	15	15	15	15	25	15	15	15
Output level DIN 45004B-60	dBµV	114									
Input/output impedance	Ω	75									
Noise figure	dB	5	5	3	6	6	4	5	6	7	7
Rejection out of band	dB	Compliance with EN 50083-2 "Antenna Input Resistance" • Internal immunity against unwanted signals from out of band									
Test output	dB	-30 dB (from main output)									
Current drawn	mA	93			70			100			
Packing dimensions	mm	170 x 105 x 50									
Weight	Kg	0,355									

U₁: 21...49

U₂: 50...69

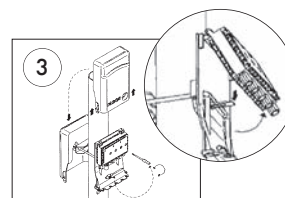
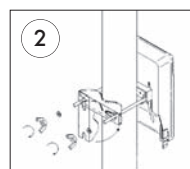
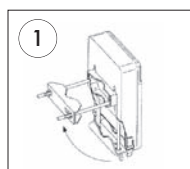
* DC pass 24 Vdc, 40 mA at UHF input.

MODEL	AMB 810 D 		AMB 820 D 		AMB 835 D 		
Reference	36413		36424		36435		
Nbr. of inputs	1		2		3		
Bands	BI;BIII	UHF	BI;BIII	UHF	BI÷FM	BIII	UHF
Gain	28	38	28	38	28	28	38
Gain regulation	25	15	25	15	25	25	15
Output level DIN 45004B-60	dBµV		114				
Input/output impedance	Ω		75				
Noise figure	5	3	5	3	5	5	3
Rejection out of band	Compliance with EN 50083-2 "Antenna Input Resistance" • Internal immunity against unwanted signals from out of band						
Test output	-30 dB (from main output)						
Current drawn	93						
Packing dimensions	mm						
Weight	Kg						
	0,355						

		12 V		12 V			12 V			
MODEL		AMB 820 S		AMB 832 S			AMB 840 S			
Reference		36070		36071			36072			
Nbr. of inputs		2		3			4			
Bands		BI;BIII	UHF	BI;BIII	UHF	UHF	BI;BIII	BIV	BV	UHF
Gain	dB	27	27	27	27	27	27	27	27	27
Gain regulation	dB	15	15	15	15	15	15	15	15	15
Output level DIN 45004B-60	dBμV	108	114	108	114		108	114		
Input/output impedance	Ω	75		75			75			
Noise figure	dB	6	4	6	6		6	7	7	6
DC Pass 12V	mA	no		no	40	40	no			
Rejection out of band	dB	Compliance with EN 50083-2 "Antenna Input Resistance" • Internal immunity								
Test output	dB	-30 dB (from main output)					—			
Supply voltage	Vdc	12 ± 10%								
Current drawn	mA	210		210			210			
Packing dimensions	mm	170 x 105 x 50								
Weight	Kg	0,355								

KITS AVAILABLE:

REF	KIT	COMPOSITION
36415	AMB 811 DK	AMB 801 D + FA 152
36414	AMB 802 DK	AMB 820 D + FA 152
36427	AMB 822 DK	AMB 835 D + FA 152
36438	AMB 838 DK	AMB 830 D + FA 152
36436	AMB 836 DK	AMB 836 D + FA 152
36006	AMB 836 K	AMB 836 + FA 152
36003	AMB 802 K	AMB 802 DC + FA 152
36008	AMB 838 K	AMB 830 + FA 152
36009	AMB 822 K	AMB 820 + FA 152



AMB 700 Series

A new concept in mast amplifiers. Both models include a different combination of band pass and stop band filters, configurable upon request on the factory, enabling an exceptional operation in a reception sites where two UHF antennas are required. For reception sites just in the border of the coverage area, a switchable DC power in both inputs, enable the use antennas with active dipoles. Depending of the cable run and the numbers of outlets to be feed we offer two models, AMB 700 or AMB 701 with different gain.

APPLICATION

Specially designed for DTT reception.

CHARACTERISTICS

- Gain regulation independent of the noise figure.
- Exceptional protection against ingress noise.
- High screening mechanical concept.
- F type connectors.
- Extra operational input level range.
- Keeps unaffected the antenna signal quality achieved for the antenna system directivity.
- Applicable in areas of overlapping coverage in SFN.

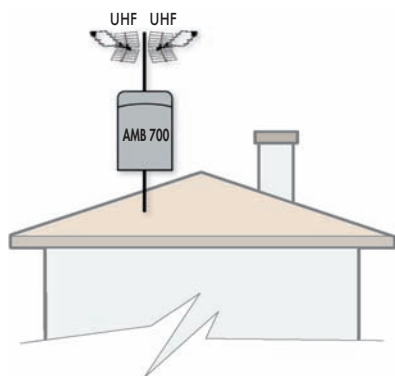


Supply voltage	24 ± 10% Vdc
Operating temperature range	-20 ÷ 60 °C

MODEL	AMB 700				AMB 701			
Reference	365xx*							
N° of inputs	4							
Bands	FM 88 ÷ 108	BIII - DAB 174 ÷ 230	UHF1 (see Fig. 1)	UHF2 (see Fig. 1)	FM 88 ÷ 108	BIII - DAB 174 ÷ 230	UHF1 (see Fig. 1)	UHF2 (see Fig. 1)
Gain	15	20	26	26	15	26	36	36
Gain regulation	20	20	15	15	20	20	15	15
Output level DIN 45004B-60	106	106	111		106	106	111	
Input / output impedance	75							
Noise figure	4	4	4	4	4	4	3	3
Selectivity	15 dB, band filters @ C ± 3 (see Fig. 1) 12 dB, band filters @ Ch. ± 4							
Rejection out of band	Compliance with EN 50083 -2 "Antenna Input Resistance"							
Supply voltage	24 ± 10%							
Consumption	70				70			
DC pass	—	—	30	30	—	—	30	30
Dimensions	170 x 105 x 50							
Weight	0,355							

* Indicate the channels to be received by each UHF input.

AMB 700



¿How to choose the most convenient amplifier?

1. Select the model of amplifiers depending on the type of filter: split band, channel pass and band pass.
2. After selecting the model, you must define the channels you want to receive.

MODEL	TYPE OF FILTER	CHANNELS TO BE DEFINED
1	SPLIT BAND 	UHF 1 21 - C1=... UHF 2 C2=... - 69
2	CHANNEL PASS 	UHF 1 C=... UHF 2 Rest of band
3	BAND PASS 	UHF 1 C1=; UHF 2 C2= Rest of band

AMB 200 K Series

Kit made up of a mast amplifier + power supply, specially designed to receive DTT signals with maximum quality.

APPLICATION

Suitable for individual systems or small installations.

CHARACTERISTICS

Amplifier:

- Separate level adjustment for each input.
- Low noise figure.
- "F" type connectors.
- Circuit housed in a shielded metal box that offers a high degree of immunity against radio-electric interference.

Power supply:

- Two outputs in a shielded circuit.
- Low consumption.
- Small size.
- Protected against short-circuits.
- With ON indicator led.



AMB 212 DK	36412
AMB 222 DK	36423
AMB 223 DK	36416



AMPLIFICATION

Packing dimensions	112 x 112 x 98 mm
Weight	0,5 Kg

AMPLIFIER

AMPLIFIER

12 V

12 V

MODEL	AMB 212 K	AMB 222 K		AMB 223 K		AMB 224 SK		AMB 232 SK		
Reference	36404	36402		36403		36410		36411		
Nº. of inputs	1	2								
Bands	BIII; UHF	BIII	UHF	BIII	UHF	BI; BIII; UHF	UHF	BI; BIII	UHF	UHF
Gain	dB	20; 27	20	27	28	36	27		20	27
Gain regulation	dB	VHF 15 / UHF 15								
Noise figure	dB	6; 4	6	4	6	4	6	6	6	6
Return losses	dB	-10								
Output level DIN 45004B – 60	dBµV	110								
Input/output impedance	Ω	75								
Current drawn	mA	75			97		100		100	
Supply voltage	Vdc	24 ± 10%					12 ± 10%			
Operating temperature	°C	-20 ÷ 60								

POWER SUPPLY

POWER SUPPLY

12 V

MODEL	FK 02	FK 02 S
Reference	66102	66103
Output voltageVdc	24 ± 10%	12 ± 10%
Output currentmA	100	150
Nº. of outputs	2	
Through lossesdB	4	
Return lossesdB	-10	
Input-output impedanceΩ	75	
Input voltageVAC	195 ÷ 265	
Operating temeperature°C	0 ÷ 50	

FA Series

Power supply for mast amplifiers.

APPLICATION

Individual systems and small installations. Compatible with the requirements for Digital Terrestrial TV and High Definition TV.

CHARACTERISTICS

- High performance switched power supply, which provides a high output current with less consumption.
- Modern design and small size, making it easier to install.
- "F"-type connectors.
- The 4-output FA 154 model avoids having to include an external splitter in installations with up to 4 connections.
- Protected against short-circuits.
- With an ON indicator led.

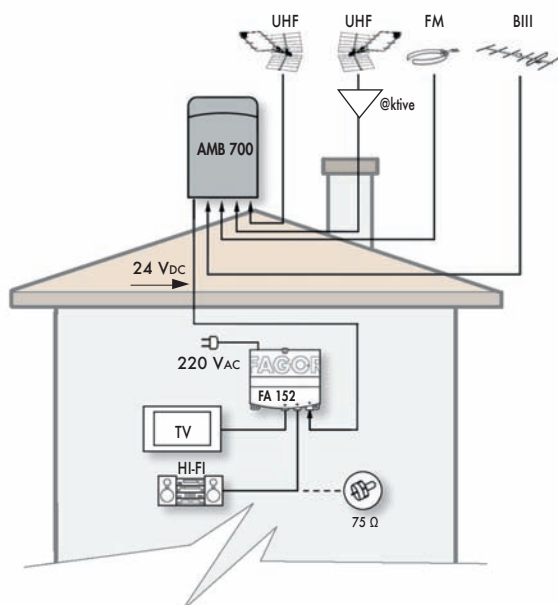


Supply voltage	195 ÷ 265 Vac
Operating temperature	0 ÷ 50 °C

12 V

MODEL	FA 152	FA 154	FA 202 S
Reference	66106	66107	66108
Number of outputs	2	4	2
Frequency range	MHz	5 ÷ 862	
Through losses	dB	4	7
Output voltage	Vdc	24 ± 10%	
Max. output current	mA	150	
Input / output impedance	Ω	75	
Packing dimensions	mm	140 x 97 x 51	
Weight	Kg	0,26	0,36

AMB 700 + FA 152



AD 420 Plus-DC / AD 540 Plus

Self-powered broadband amplifier for indoor use.

APPLICATION

Suitable for individual digital terrestrial TV installations with several TV sets located away from the main socket.

CHARACTERISTICS

- Circuit in metal box, with high degree of shielding.
- Switching power supply, which reduces consumption and inner temperature and guarantees a long life product.
- Modern and reduce-sized design, that allows an easy installation.
- AD 420 Plus: independent gain regulation in UHF and VHF.
- AD 540 Plus: Slope gain to compensate the coaxial cable losses.

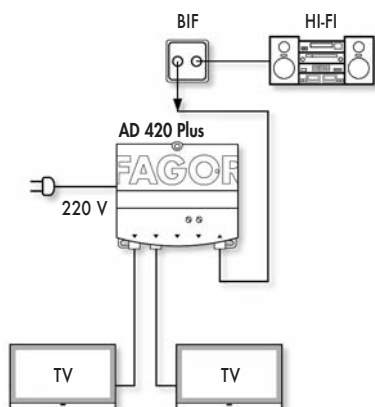


AMPLIFICATION

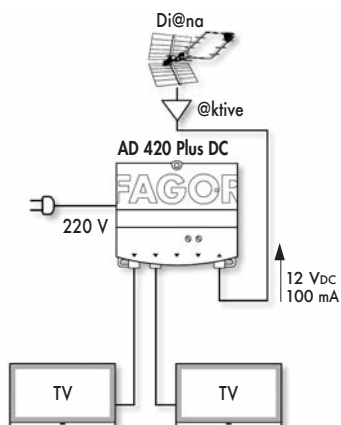
MODEL	AD 420 Plus	AD 420 Plus DC	AD 540 Plus
Supply voltage	Vac	195 ÷ 265	
Power consumption	W	1,5	
Operating temperature range	°C	0 ÷ 50	

MODEL	AD 420 Plus		AD 420 Plus DC		AD 540 Plus
Reference	36422		36419		36426
Band coverage	VHF 40 ÷ 318	UHF 470 ÷ 862	VHF 40 ÷ 318	UHF 470 ÷ 862	47 ÷ 862
Gain	dB		dB		16 ÷ 20 (47 ÷ 862 MHz)
Regulation	dB		dB		16
Noise figure	dB		dB		4
Number of output	2		2		4
Max. output level	dBμV		100		
Input/output impedance	Ω		75		
DC pass for previous	—		12V / 100 mA		—
Packing dimensions	mm		107 x 48 x 138 (+30)		
Weight	Kg		0,29		0,30

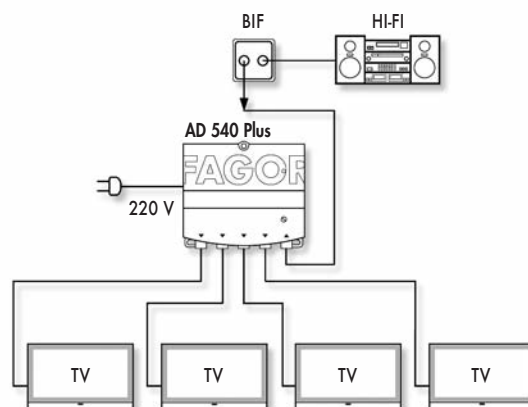
AD 420 Plus



AD 420 Plus DC



AD 540 Plus



AD 1000

Self-powered broadband amplifier for indoor use.
AD 1000: amplifies signals from 47 to 862 MHz, and allows return path (from 5 to 30 MHz).
AD 1000 A: amplifies signals from 87 to 862 MHz.

APPLICATION
 Suitable for individual digital terrestrial TV installations. The models are compatible with CATVs operators.

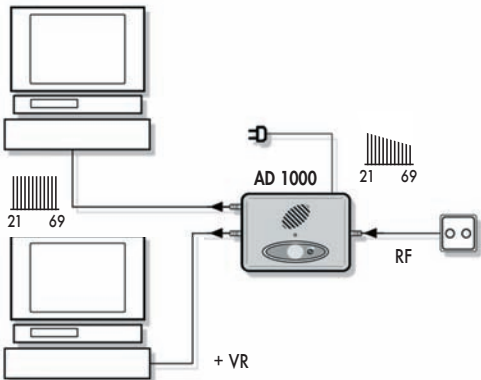
- CHARACTERISTICS**
- Gain control
 - It has slope regulation to compensate the losses due to coaxial cable attenuation. Incorporate an equalization control.
 - Two independent outputs, the second one attenuated 10 dB with respect to the first one.
 - The circuit is housed in a zamak box that ensures a high level of shielding.



MODEL	AD 1000	AD 1000 A
Supply voltage	230 Vac +15% -10%	
Power consumption	W	7
Operating temperature range	°C	0 ÷ 50

MODEL	AD 1000	AD 1000 A
Reference	36100	36101
Number of inputs	1	
Number of outputs	2	
Frequency range	87 ÷ 862	
Gain	Output 1: 20 / Output 2: 10	
Max. output level DIN 45004B, -60 dBc	Output 1: 112 / Output 2: 102	
Input / output return losses	10	
Gain regulation	0 ÷ 10	
Tilt regulation	0 ÷ 10	
Noise figure	5	
Input / output impedance	75	
Return path frequency range	5 ÷ 30	5 ÷ 65
Return path through loss	2,5	
Input / output connectors	F (f)	
Packing dimensions	165 x 92 x 60	
Weight	0,4	

Indoor amplification RF



AD 2300 / AD 4300

Self-powered broadband amplifier for indoor use.

APPLICATION

Suitable for individual digital terrestrial TV installations with several TV sets located away from the main socket.

CHARACTERISTICS

- The circuit is housed in a zamak box that ensures a high level of shielding.
- Switching power supply, which reduces consumption and inner temperature and guarantees a long life product.
- Independent regulation
- Allows DC pass between any output.
- AD 2300: it has two independent outputs, the second one attenuated 10 dB with respect to the first one.
- AD 4300: it has 4 independent outputs. LTE compatible.

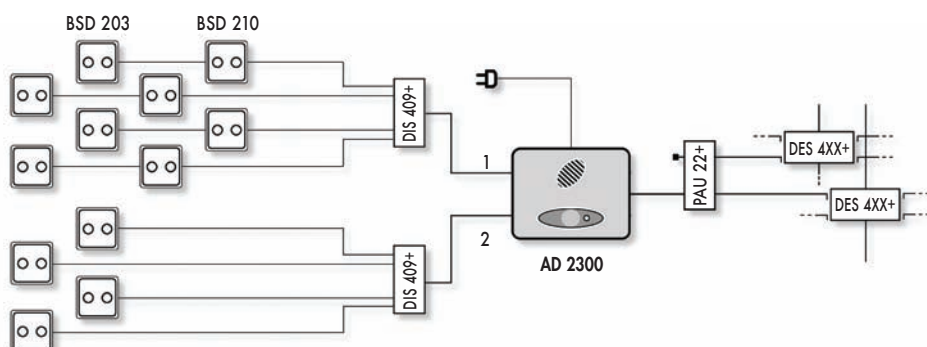


MODEL		AD 2300	AD 4300
Supply voltage	Vac	195 - 265	
Power consumption	W	5,5 VA	2,7
Operating temperature range	°C	0 ÷ 50	

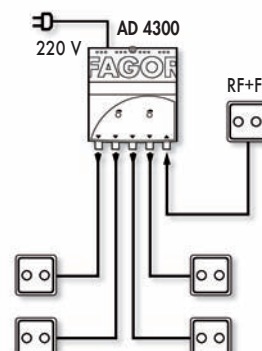
MODEL	AD 2300					AD 4300			
Reference	36230					36231			
Number of inputs	1								
Number of outputs	2					4			
Frequency range	MHz	RF 47 ÷ 862		SAT 950 ÷ 2150		RF 47 ÷ 790		SAT 950 ÷ 2150	
Gain		47 MHz	862 MHz	950 MHz	2150 MHz	47 MHz	790 MHz	950 MHz	2150 MHz
• Output 1	dB	16	20	23	30	17		27	
• Output 2		4	8	13	20				
Max. output level DIN 4500 4B*	dBμV	108 (Output 1) 96 (Output 2)		114 (Output 1) 104 (Output 2)		105		105	
Gain regulation	dB	20		—		20			
Impedance	Ω	75							
Return path through loss	dB	3,5 (Output 1)					10		
Input / output connectors		F(f)							
Max. current drawn	A	0,5							
DC pass, 22 KHz, DiSEqC		YES ALL OUTPUTS							
Packing dimensions	mm	165 x 92 x 60					148 x 130 x 50		
Weight	Kg	0,4					0,3		

* 950 ÷ 2300 MHz: IM3 at -35 dB
47 ÷ 862 MHz: IM3 at -60 dB

Indoor amplification (RF & 1st IF SAT)



AD 4300



MOD 500 N Series

Self-powered modulator which generates an RF channel with the Audio and Video information coming from a Video, DVD, IRD, video door entry system, security cameras, etc.

APPLICATIONS

This modulator enables the reception of a signal coming from a receiver with Audio and Video output, on a TV set without Audio and Video input.

The antenna signal from an outlet socket can be combined with a newly generated channel and both are delivered at the output, thus enabling their coaxial cable distribution throughout the dwelling.

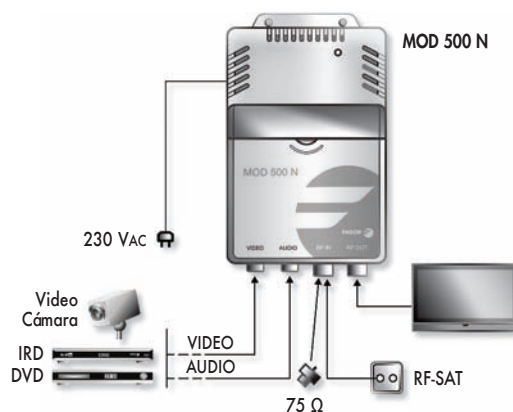
CHARACTERISTICS

- Double side band modulation, allowing one channel spacing operation.
- Compact design, making it easy to install.
- The output channel is easily programmed by two buttons and an alphanumerical display.
- Audio volume can be adjusted to be equalised with the volume of other programmes.
- Incorporates a video-test bar generator making TV tuning easier.
- Multi-standard and multi-band, with one single model covering all standards and channels.
- A PLL circuit ensures high stability of the output channel.



Supply voltage	198 ÷ 250 Vac
Consumption	2,5 VA
Operating temperature range	0 ÷ 50° C

MODEL		MOD 500 N	
Reference		86521	
Output frequency	MHz	47÷862	BI E2-4 BIII E5 ÷ E12 BS S11÷ S20 UHF 21 ÷ 69
Output level	dBµv	60 ÷ 75 (adjustable)	
Passage band	MHz	47 ÷ 2150	
Insertion losses	dB	47 ÷ 862 MHz : 2,5 862 ÷ 2150 MHz : 4	
Video input level	Vpp	1	
Audio input level	Vpp	0,15 ÷ 0,77	
Connectors		RF: F (f) VIDEO / AUDIO: RCA (f)	
Packing dimensions	mm	110 x 50 x 134	
Weight	kg	0,3	

APPLICATION EXAMPLE

SABAL Series

Amplifiers specially designed for the distribution of the RF and 1st IF SAT signal.

APPLICATION

Designed to work under adverse weather conditions, where a robust amplifier is needed.

CHARACTERISTICS

- Their circuit is integrated in a Zamak box, which ensures correct operation of the amplifier.
- Allow return path operation and have slope control for the direct way.
- The DWBA 415 model is a double extension amplifier, valid for a two-cable system with two independent satellite TV circuits and a common one for terrestrial TV, in addition to the return path.
- The amplifier has been optimised by specific circuits which protect it against telecommunications services on adjacent frequency bands.
- Integrates a switch mode power supply to reduce the inside temperature and help extend the life of the equipment.



AMPLIFICATION

Supply voltage	230 Vac ± 15 %
Power consumption	15 VA
Operating temperature range	0 ÷ 50° C

MODEL	DA 353		DA 354		WBA 433			D WBA 415		
Reference	35920		35924		35930			35934		
Numbers of inputs	1		1		1			2		
Band coverage	MHz		MHz		MHz			MHz		
	5 ÷ 30**	47 ÷ 862	5 ÷ 30**	47 ÷ 862	5 ÷ 30**	47 ÷ 862	950 ÷ 2300	5 ÷ 30**	47 ÷ 862	950 ÷ 2300
Max. output level *	dBμV		dBμV		dBμV			dBμV		
	117	116	117	121 (IM2=115 dBμV)	—	117	117	—	117	125
Input / output impedance	Ω		Ω		Ω			Ω		
	75		75		75			75		
Return losses	dB		dB		dB			dB		
	15	10	15	10	15	10	6	15	10	6
Gain	dB		dB		dB			dB		
	15	35	15	35	-2	35	34 - 41	-2	35	34 - 41
Level adjustment	dB		dB		dB			dB		
	20	20	20	20	—	20	20	—	20	20
Equalisation	dB		dB		dB			dB		
- Variable	—	20	—	20	—	0-20	—	—	0-18	—
- Switchable	—	—	—	—	—	—	7/14	—	—	7/14
Test output level	dB		dB		dB			dB		
	1 IN - 1 OUT		1 IN - 1 OUT		1 IN - 1 OUT			2 OUT		
TEST output attenuation	dB		dB		dB			dB		
	30		30		30			30		
Noise figure (typ.)	dB		dB		dB			dB		
	9	6	9	6	—	6,5	8,5	—	6,5	8,5
Input / output connectors	F (f)		F (f)		F (f)			F (f)		
Protection rating	IP63		IP63		IP63			IP63		
Packing dimensions	mm		mm		mm			mm		
	280 x 175 x 60		280 x 175 x 60		280 x 175 x 60			280 x 175 x 60		
Weight	Kg		Kg		Kg			Kg		
	3,1		3,1		3,1			3,2		

* 950 ÷ 2300 MHz: IM3 a - 35 dB

5 ÷ 862 MHz: IM3 a - 60dB

** DA 353 A (Ref. 35922): 5 ÷ 66 return path

** DA 354 A (Ref. 35925): 5 ÷ 66 return path

** WBA 433 A (Ref. 35932): 5 ÷ 66 return path

** D WBA 415 A (Ref.35935): 5 ÷ 66 return path

SAB Series

Band amplification system with separate VHF and UHF signal processing, to reduce the IM2 products.

APPLICATION

Suitable as a distribution amplifier, or an extension amplifier for collectives.

SAB 401 is designed for working in high temperature environments.

SAB 301/SAB 301-A, broadband amplifiers which allow a complete processing of all TV channels, from 47 to 862 MHz. They can also be used as final amplifier in CATV network.

CHARACTERISTICS

- The circuit is housed in a single-part metal case which includes all the input-output connectors.
- It has shielding at the top and bottom, that assures a high level of mechanical rigidity and complete protection against electrical interference.
- SAB 301/SAB 301-A have return path, tilt regulation and test output.
- TEST output for signal monitoring



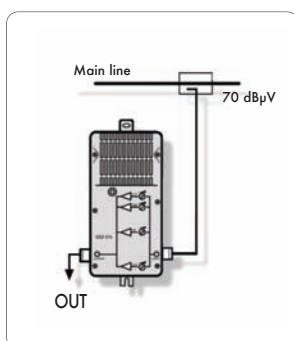
Supply voltage	230 Vac -10 % +15%
Current drawn	10 VA
Operating temperature range	0 ÷ 50° C

MODEL		SAB 401**	SAB 402	SAB 301	SAB 301-A
Reference		35415	35402	35301	35302
Number of inputs		1	1	1	1
Band coverage		BI, FM, BIII*, UHF	BI, FM, BIII*, UHF	47 ÷ 862 MHz	87,5 ÷ 862 MHz
Output level DIN 45004B (-60 dB)	dBμV	111	117	116	116
Gain	dB	40, 33, 40, 40	40, 33, 40, 40	28 ÷ 35	28 ÷ 35
Input / output impedance	Ω	75	75	75	75
Noise figure	dB	7, 7, 7, 6	7, 7, 7, 6	12...8	12...8
Regulation	dB	20	20	20	20
Tilt regulation	dB	—	—	0 ÷ 11	0 ÷ 11
Return path covered band	MHz	—	—	5 ÷ 30	5 ÷ 65
Return path insertion losses	dB	—	—	-3,5	-3,5
Packing dimensions	mm	250 x 125 x 62			
Weight	Kg	0,8			

* BIII : 132 - 300 MHz (S 05 - S 20)

** With + 24 V (20 mA) auxiliary output

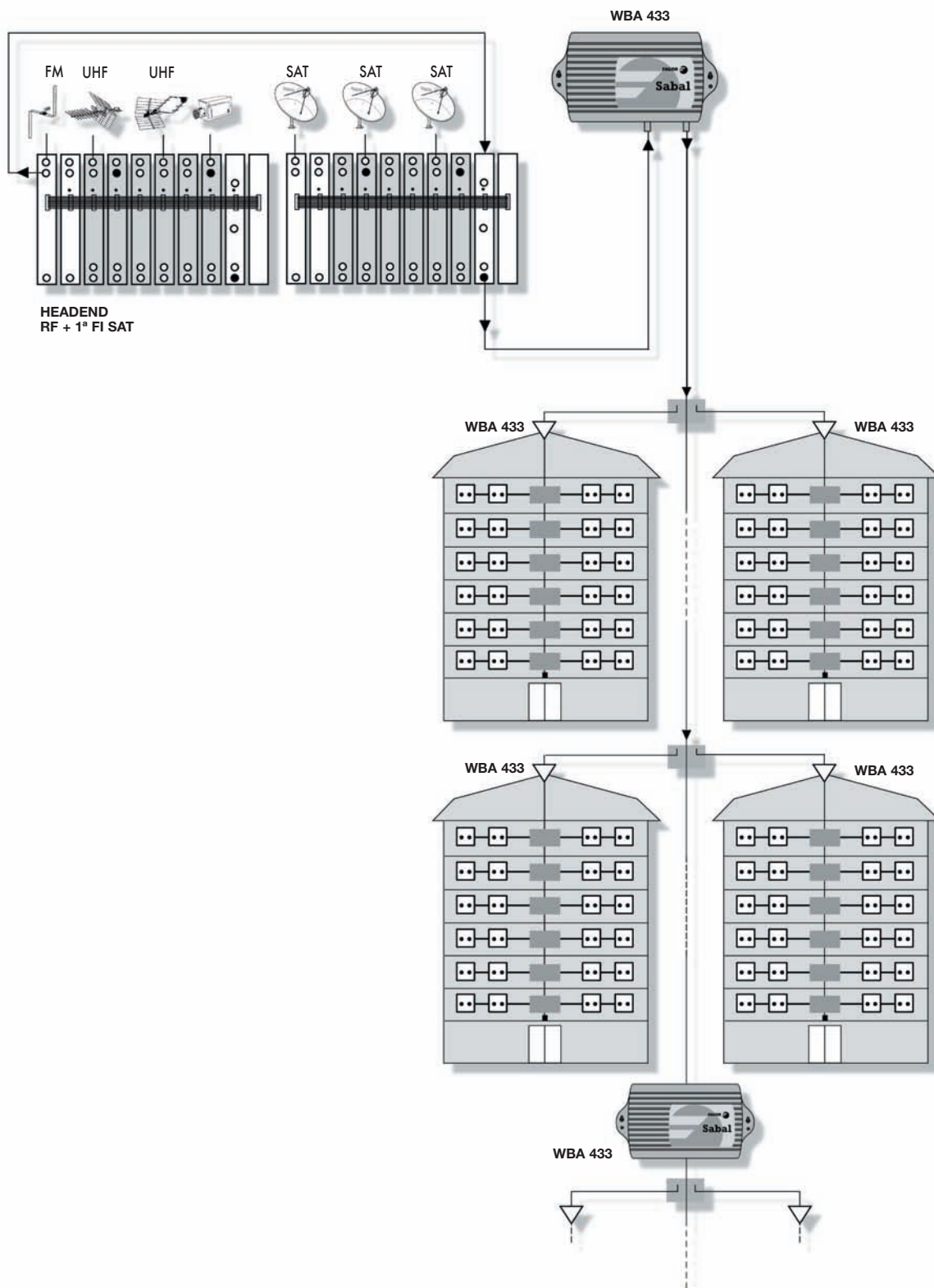
SAB 401 / SAB 402
SAB 301/SAB 301-A



APPLICATION EXAMPLES

SABAL Series

WBA 433 Wide Band Amplifier



AMPLIFICATION



dt receivers

tdt
PREMIUM

FAGG



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• TEDI 3000 HD Series	86
• TEDI 2000 HD Series	87



Tedi 3000 HD

DTT
RECEIVERS

CHARACTERISTICS

- DVB-T. MPEG-4, MPEG-2 standard compatible.
- USB 2.0 port.
- HDMI 1.3b output.
- "Time Shift" via USB 2.0. with recording option.
- Advanced reproduction functions: forward, rewind, previous/next, pause, go to, etc.
- Media player: plays photos, music, videos.. (MP3, JPEG, BMP and OGC files).
- Screen-format 16:9/4:3
- DVB EN300743 teletext and DVB ETS300472 teletext by VBI and OSD.
- Parental lock.
- Auto save function for last channel used.
- Software Upgrading via USB 2.0.
- Low consumption.
- Includes games: Tetris, Othello, Sudoku...

INCLUDES:

- Remote control
- Batteries: 2 x 1.5V AAA
- AC/DC adapter
- IR cable
- Installation manual



MODEL	Tedi 3000 HD	
Reference	86524	
Power supply voltage	AC 175 ~ 250V; 50/60Hz	
Standby	0,5 W MAX.	
Max. current at +5Vdc	50 mA	
Input impedance	75 Ohm	
RF input connector	IEC female, 9,5mm	
Input frequency	177,5 ~ 227,5 MHz (BIII)	474 ~ 858 MHz (UHF)
ANT loop through	51 ~ 858 MHz	
Input level range	64QAM:-78,5 ~ -8,75dBm /16QAM:-84 ~ -8,75dBm / QPSK:-90,3 ~ -8,75dBm	
RF channel bandwidth	7 MHz, 8 MHz	
HDMI output	19 PIN female; HDMI 1.3b	
IR input	minijack 3,5mm	
USB	USB 2.0	
Constellation	QPSK, 16QAM, 64QAM	
Video decode	MPEG2 ISO/IEC 13818-2 MP@ML, H.264 (MPEG4 part 10) 4.1/MPEG-2 MP@HL	
Video resolution	480i,480p,576i,576p,720p,1080i,1080p	
Audio decode	MPEG-1, MPEG-2 (Layer I/II), MP3, AC-3 (Dolby Digital),AAC-LC,WMA	
Audio mode	Left/Right/Stereo/Mono	
Operating temperature range	0-40° C	
Packing dimensions	139 x 63 x 23	
Weight	0,2 kg	

Tedi 2000 HD

Reduced size high definition DTT receiver size suitable for those TVs that have HDTV compatible screens (Full HD, HD ready ...), but do not include MPEG 4 tuner.

APPLICATION

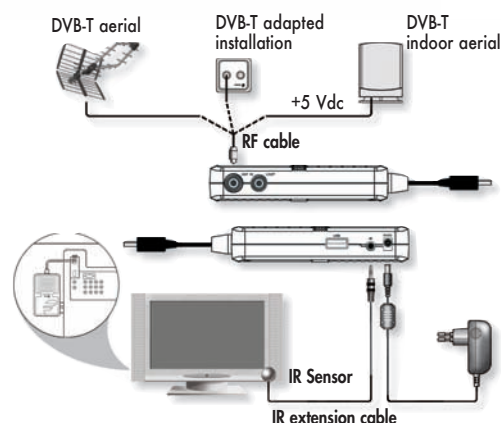
Reception of free digital terrestrial channels in HD.

CHARACTERISTICS

- Complies with DVB-T, MPEG-4, MPEG-2.
- USB port.
- HDMI (Auto, 576i, 576p, 720p, 1080i, 1080p and Highest).
- "Time Shift" Function.
- Timer function for program recording.
- Advanced features in playback: forward, rewind, up / down, pause, go to, etc).
- Media Player: playback of recordings, photos, music and movies (files . AVI, . MPEG, . JPEG, . GIF and BMP).
- Screen Format 16:9 / 4:3.
- Supports VBI Teletext, Teletext OSD and Subtitles Subtitles TXT standard.
- Parental lock and menu.
- Memorizes the last program.
- Software update via USB.
- Optical audio output
- Low consumption.



Tedi 2000 HD



MODEL	Tedi 2000 HD	
Reference	86522	
POWER SUPPLY		
Power supply voltage	AC 100~240V; 50/60Hz	
Consumption	0,5 W MAX.	
Max. Current +5Vdc	50 mA	
HARDWARE		
Tuner		
Input impedance	75 Ohm	
RF input connector	IEC female, 9,5 mm	
Input frequency	174~230 MHz (BIII)	470~862 MHz (UHF)
Input frequency range	470 ~ 862 MHz	
Input level	-10 dBm a -78 dBm	
RF channel bandwidth	6 MHz, 7 MHz, 8 MHz	
HDMI output	19 PIN female; HDMI 1.2	
Connector		
Input IR	minijack 3,5mm	
USB	USB 2.0	
Constellation	QPSK, 16QAM, 64QAM	
Transmission mode	2K, 8K FFT	
FEC	1/2, 2/3, 3/4, 5/6, 7/8	
Guard interval	1/4, 1/8, 1/16, 1/32	
SYSTEM		
Video decoder	MPEG-4 AVC/H.264 MP@HP level 4.1 / MPEG-2 MP@ML	
Video Resolution	1080i, 720p	
Video Format	4:3, 16:9 / MPEG-1 layer I&II, MPEG-2 layer II, MPEG-2 AAC, MPEG-4 AAC	
Audio decoder	LC 2ch/5.1 ch	
Audio Mode	Left / Right / Stereo / Mono	
FORMATS		
Compatible	.MP3, .MPEG, .MP4, .MKV, .AVI, .DIVX, .XVID, .JPG, .GIF, .BMP	
REMOTE CONTROL		
Batteries	2 x 1,5V AAA	
Working temperature	0-40° C	
Packing dimensions	158 x158 x 58	
Weight	0,3 kg	



distribution



F AGOR has designed a wide range of components for guaranteeing a perfect distribution of the signal to each user.

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DES / DIS Series

Shielded tap-offs and splitters with saddle & clamp, suitable for digital signal distribution in community installations.

APPLICATION

Analogue and Digital Terrestrial TV Installations, both individual or community.

CHARACTERISTICS

- Maximum efficiency with minimum output level at headend.
- Same level between users in the same floor.
- Linear attenuation in the whole band.
- High signal levels can be used thanks to a special shielding design.
- Easy to set up.
- Valid for reduced space installations.
- Valid for DiseqC signals.



PI DES

REF.: 85013



PI DES/DIS+S

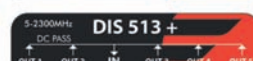
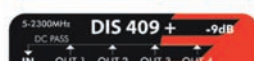
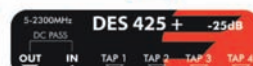
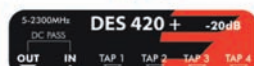
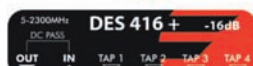
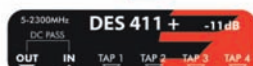
REF.: 85016



MODEL	PI-DES	PI-DES/DIS +/s
Reference	85013	85016
Packing dimensions mm	380 x 160 x 160	92 x 55 x 285
Weight Kg	1,1	0,3

		SPLITTERS				TAP-OFFS								
MODEL		DIS 204 S	DIS 307 S	DIS 409+	DIS 513+	DES 211 S	DES 216 S	DES 220 S	DES 225 S	DES 411+	DES 416+	DES 420+	DES 425+	
Reference		85357	85358	85355	85356	85374	85375	85376	85377	85380	85381	85382	85383	
Nr of outputs		2	3	4	5 3/2	2				4				
Covered band MHz		5 ÷ 2300												
IN-OUT Insertion loss	5 - 47 MHz	3,5	6,5	7,5	7,5 / 11	2,5	1,2	0,7	0,5	4	1,8	0,9	0,6	
	47 - 550 MHz	3,5	6,5	7,5	7,5 / 11	2,2	1,1	0,8	0,5	3,5	1,8	0,9	0,6	
	550 - 862 MHz	4	6,5	7,5	8 / 11,5	2,4	1,1	0,8	0,6	4	1,9	0,9	0,7	
	950 - 1550 MHz	4,5	7,5	8,5	9 / 12,5	2,9	1,5	1	1	4,2	2,8	1,4	1,1	
	1550 - 2150 MHz	5,5	8,5	9,5	10 / 13	3,2	1,5	1,2	1,4	4,4	3,2	1,9	1,6	
	2150 - 2300 MHz	5,5	8,5	9,5	10,5 / 14	3,7	2	1,5	1,8	4,5	3,5	2	1,7	
IN-TAP Tap loss	5 - 47 MHz					11	16	21	25	11	15,5	20	25	
	47 - 550 MHz					11	16	21	25	11	16	20	25	
	950 - 1550 MHz					11	16	21	25	11	16	20	25	
	950 - 1550 MHz					11	16	21,5	25	12	16	20	25	
	1550 - 2150 MHz					11,5	16,5	21,5	25	13	16	20	25,5	
	2150 - 2300 MHz					11,5	16,5	21,5	25,5	13	16,5	20,5	25,5	
Isolation OUT-TAP	47 - 950 MHz					23	24	25	25	23	25	25	25	
	950 - 2150 MHz					20	21	25	25	23	25	25	25	
OUT-OUT TAP-TAP isolation	47 - 862 MHz		24	24	24	21	22	22	25	21	21	22	21	
	950 - 2150 MHz					22	22	22	22	25	21	21	22	23
IN Return loss	47 - 862 MHz		14	14	14	12	17	20	20	22	15	16	20	22
	950 - 2150 MHz					12	14	14	14	20	20	25	17	18
OUT Return loss	47 - 862 MHz		13	12	12	14	20	20	25	22	20	22	23	25
	950 - 2150 MHz						12	12	12	12	17	16	17	15
TAP Return loss	47 - 862 MHz					12	13	17	16	18	19	21	20	
	950 - 2150 MHz					12	12	12	12	16	16	16	16	
CD pass 24 V _{cc} , 0, 5A, 22 KHz	IN - OUT	NO	NO	NO	NO	YES								
	OUT - IN	YES	YES	YES	YES	YES								
CD pass 24 V _{cc} , 0, 5A, 22 KHz	IN - TAP					NO								
	TAP - IN					NO								
	TAP - TAP					NO								
	TAP - TAP					NO								
Packing dimensions (10 u.)	mm	118x108x61		185 x 90 x 50		118 x 108 x 61				185 x 90 x 50				
Weight (10 u.)	Kg	0,66		0,85		0,66				0,85				

CONNECTIONS





TAP-OFFS AND SPLITTERS WITH "F" CONNECTOR



REP / DER Series

Tap-offs and splitters with "F" connector totally shielded.

APPLICATION

Analogue TV Installations, both individual or community.

CARACTERÍSTICAS

- • TAP- OFFS with 1, 2, 4, 6 and 8 outputs.
- Splitters with 2, 3, 4, 6 and 8 outputs.
- DC pass:
- SPT: through outputs.
- TAP: at the main input-output.
- Allow cable passage at the back side.



DISTRIBUTION

			SPLITTERS					TAP-OFFS							
MODEL			REP 204	REP 307	REP 409	REP 613	REP 815	DER 110	DER 115	DER 120	DER 125	DER 210	DER 215	DER 220	DER 225
Reference			85261	85262	85263	85264	85265	85266	85267	85268	85269	85270	85271	85272	85273
Nr. of outputs			2	3	4	6	8	1				2			
Covered band MHz			5 ÷ 2300												
Tap Loss (± 0,5 dB)	5 - 2300 MHz	dB	—	—	—	—	—	10	15	20	25	10	15	20	25
Through loss	5 - 47 MHz	dB	4	6,5	7,5	10,5	11	3	1,3	1,1	1	3,5	2,5	1,5	1
	47 - 862 MHz		4	7,5	8	11	12	1,8	1,5	1,1	1	3	2,2	1,5	1
	950 - 2150 MHz		5,5	9	9,5	14,5	15,5	2,2	2,2	1,9	1,8	3,5	3	2,8	1,7
	2150 - 2300 MHz		6	10	10,5	15	16	2,2	2,2	2,2	2,1	4	3	3	2,1
Directional isolation	5 - 47 MHz	dB	—	—	—	—	—	25	25	27	30	20	25	30	35
	47 - 862 MHz		—	—	—	—	—	24	24	25	27	23	22	25	35
	950 - 2150 MHz		—	—	—	—	—	23	23	23	24	18	22	22	28
	2150 - 2300 MHz		—	—	—	—	—	23	23	23	24	18	21	22	26
Output isolation	5 - 47 MHz	dB	20	20	21	22	24	—	—	—	—	40	45	60	22
	47 - 862 MHz		21	21	21	22	22	—	—	—	—	30	35	45	22
	950 - 2150 MHz		20	21	21	21	21	—	—	—	—	28	30	32	22
	2150 - 2300 MHz		20	20	21	20	21	—	—	—	—	28	30	32	22
Return losses	5 - 862 MHz	dB	12												
	950 - 2150 MHz		10												
Min. screening factor	5 - 862 MHz	dB	65												
	950 - 2150 MHz		55												
Packing dimensions (10 u.)	mm	115x105x57	160 x 105 x 57			205 x 125 x 67		115 x 105 x 57				160 x 105 x 57			
Weight (10 u.)	Kg	0,50	0,60			1,10		0,50				0,60			

			TAP-OFFS									
MODEL			DER 410	DER 415	DER 420	DER 425	DER 615	DER 620	DER 625	DER 815	DER 820	DER 825
Reference			85274	85275	85276	85277	85278	85279	85280	85281	85282	85283
Nr. of outputs			4				6			8		
Covered band MHz			5 ÷ 2300									
Tap Loss (± 0,5 dB)	5 - 2300 MHz	dB	10	15	20	25	15	20	25	15	20	25
Through loss	5 - 47 MHz	dB	4	2	1	1	3,5	1,5	0,5	3,5	1,5	1
	47 - 862 MHz		4	2,5	1	1	4	2	1,5	4	2	1
	950 - 2150 MHz		5	4	2	2	5	4,5	3,5	5	3,5	2
	2150 - 2300 MHz		5,5	4,5	3	2	5,5	5	5	5,5	3,7	2,5
Directional isolation	5 - 47 MHz	dB	25	30	38	45	25	30	30	25	30	30
	47 - 862 MHz		27	28	30	32	22	25	30	22	25	30
	950 - 2150 MHz		25	25	25	25	22	25	25	22	25	25
	2150 - 2300 MHz		25	25	25	25	21	24	24	20	24	24
Output isolation	5 - 47 MHz	dB	23	23	23	23	22	25	25	22	27	27
	47 - 862 MHz		22	22	22	22	22	22	20	22	22	22
	950 - 2150 MHz		21	22	22	22	22	22	20	22	22	22
	2150 - 2300 MHz		21	21	21	21	16	16	16	16	18	18
Return losses	5 - 862 MHz	dB	12									
	950 - 2150 MHz		10									
Min. screening factor	5 - 862 MHz	dB	65									
	950 - 2150 MHz		55									
Packing dimensions (10 u.) mm			160 x 105 x 65				205 x 125 x 67					
Weight (10 u.) Kg			0,70				1,10					

DXR + Series

Shielded diplexer with saddle clamp connection.

APPLICATION

Suitable for digital or analogue TV installations.

- DXR 216 +: diplexer with 2 inputs / 1 output, suitable for splitting or combining RF/1st IF SAT.
- DXR 2D +: suitable for incorporating 1st IF SAT signals.

CARACTERÍSTICAS

- High shielding zamak chassis.
- Low loss and excellent frequency response.
- Easy to install in reduced areas.

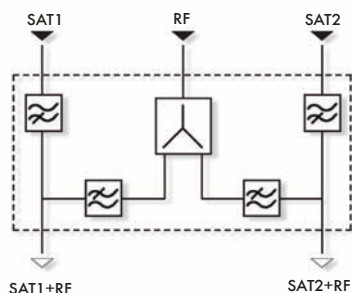


MODEL	DXR 216+		DXR 2D+		
Reference	86244		86243		
DC pass 24 Vdc, 0 5A, 2 KHZ	SAT IN - OUT		—		
Covered bands	RF	SAT	RF	SAT	
Frequency range	MHz	15 ÷ 862	950 ÷ 2300	5 ÷ 862	950 ÷ 2300
Number of inputs		1	1	1	2 (SAT 1 and SAT 2)
Number of outputs		1		2 (SAT 1+ RF and SAT 2+ RF)	
Through loss	dB	1,7	2	5	1(950-1200 MHz 2 dB)
Rejection, SAT input to RF	dB	33		25	
Rejection, RF input to SAT	dB	25		25	
Impedance	Ω	75			
Return losses	dB	10			
Packing dimensions (10 u.)	mm	185 x 90 x 50			
Weight (10 u.)	Kg	0,85			

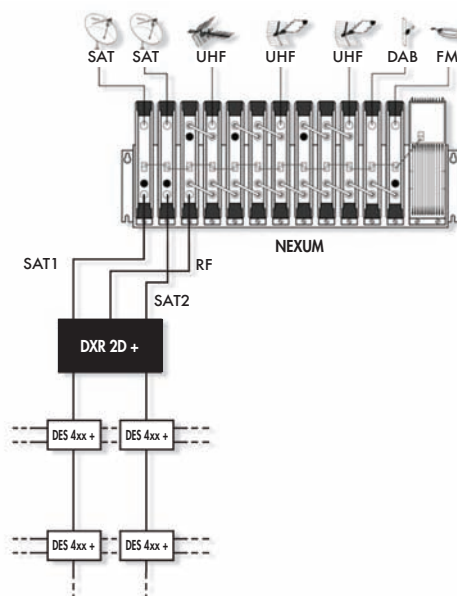
CONNECTIONS



INTERNAL DIAGRAM DXR 2D +



APPLICATION EXAMPLE DXR 2D +





BIF Series

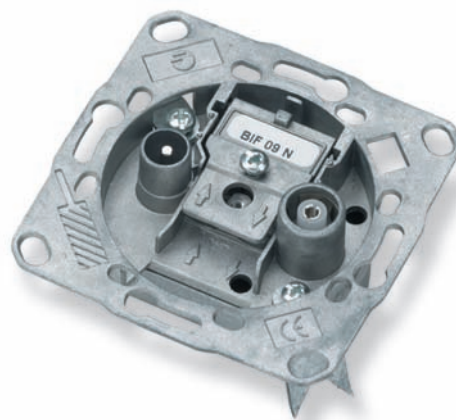
Outlet sockets with inductive devices for adequate filtering of the signals at the outputs, with minimum through losses.

APPLICATION

TV Installations, both individual or community to be used as end socket or for cascading.

CHARACTERISTICS

- The circuit has a metal (zamak) housing to achieve a high degree of shielding.
- It has a special shielding at the input and output connections, and it is designed for easy installation.
- The outlet's directivity guarantees enough isolation between floors.
- Compatible with most of the electrical devices available.



Frequency (MHz)	5	68	87,5	108	118	1000
TV						
RADIO						

MODEL			BIF 01 S	BIF 01 N	BIF 05 N	BIF 09 N	BIF 14 N	BRF 00 N		
Reference			85164	85159	85160	85161	85162	85163		
Technology			Inductive						Resistive	
Band coverage		MHz	5 ÷ 1000							
Through losses	Return path	5 - 68 MHz	Single*	End	2,5	1,5	1,2	2		
		68 - 470 MHz			2,5	1	1,2	2		
		470 - 1000 MHz			2,5	1	1,6	2		
Derivation losses	Return path	5 - 68 MHz	0,5	2,5	7,5	11	13,5	1,5		
	TV	118 - 470 MHz	0,5	3	7	11	15	1,5		
		470 - 1000 MHz	0,5	3	7	11	15,2	1,5		
	R	87,5 - 108 MHz	6	6	12,5	18	17	1,5		
Directivity	TV - OUT	dB	—	—	15			—		
	R - OUT		—	—	30			—		
Isolation		TV - R	dB	30						—
Shielding factor	40 - 470 MHz	dB	75						—	
	70 - 862 MHz		65							
Impedance		Ω	75						—	
Return losses		dB	9,5						—	
Output connectors (UNE 20-523-79)		R TV	IEC 9,5 (f) IEC 9,5 (m)							
Packing dimensions (20 u.)		mm	300 x 165 x 85							
Weight (20 u.)		Kg	1,5							

* BIF 01 S model must be connected directly to tap-off or splitter.

TV - FM COVER

MODEL	C BIF	C BIF B
Reference	85033	85034
Colour	beige	white
Packing dimensions (20 u.)	mm	190 x 90 x 85
Weight (20 u.)	Kg	0,5

SUPPLEMENT FOR SURFACE MOUNTING

MODEL	SS BT	SS BT B
Reference	85020	85031
Colour	beige	white
Packing dimensions (15 u.)	mm	260 x 135 x 90
Weight (15 u.)	Kg	0,5

OUTLET SOCKET FOR DATA

BID N Series



Frequency (MHz)	5	65	85	862
DATA				
TV				

MODEL		BID 01 N	BID 10 N
Reference		85167	85168
Technology		Inductive	
Band coverage	MHz	5 ÷ 862	
Through losses	5 ÷ 862 MHz	End	4
Derivation losses	TV 87,5 ÷ 90 MHz	6	9
	DATA 90 ÷ 862 MHz	5	8
	5 ÷ 65 MHz	1	3,5
	87,5 ÷ 862 MHz	5	10
Directivity	TV - OUT	15	
	DATA - OUT	25	



BSD 200 Series

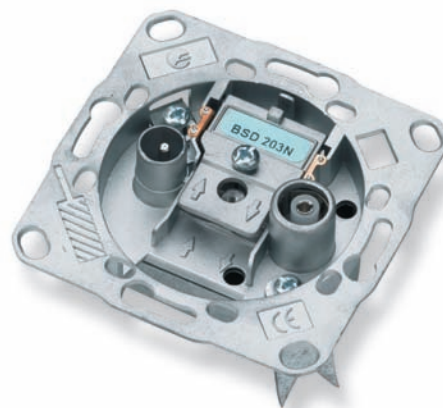
Outlet sockets with inductive devices for adequate filtering of the signals at the outputs, with minimum through losses.

APPLICATION

Suitable for Digital TV, up to 2300 MHz in individual and community installations.

CHARACTERISTICS

- The circuit has a metal (zamak) housing to achieve a high degree of shielding.
- It has a special shielding at the input and output connections, and it is designed for easy installation.
- The outlet's directivity guarantees enough isolation between floors.
- Compatible with most of the electrical devices available.



Frequency (MHz)	5	862	950	2300
TV				
SAT				

MODEL		BSD 201 F DC	BSD 201 S	BSD 201 SDC	BSD 203 N	BSD 203 DC	BSD 210 N	BSD 210 DC	BSD 215 N	BSD 220 N
Reference		86222	86218	86221	86205	86204	86219	86211	86215	86220
Number of outputs		2								
Band coverage		5 ÷ 2300								
MHz										
DC pass	IN-OUT 300 mA max	—	—	—	—	—	—	yes	—	—
	SAT 300 mA max	yes	—	yes	—	yes	—	yes	—	—
Through losses	5 - 30 MHz	Single*			End		3,0	3,0	3,0	3,0
	47 - 862 MHz						2,5	2,0	1,8	
	950 - 2150 MHz						2,5	3,0	3,0	
	2150 - 2300 MHz						3,0	3,0	3,0	
Derivation losses	5 - 30 MHz	0,5			2,0		10	15,0	16,0	
	47 - 862 MHz						1	15,0	20,0	
	950 - 2150 MHz						1	12	16,0	20,0
	2150 - 2300 MHz						1	12,5	16,0	22,0
Directivity	5 - 30 MHz	—	—	—	—	—	15	23	25	
	47 - 862 MHz						—	22	23	25
	950 - 2150 MHz						—	18	20	25
	2150 - 2300 MHz						—	20	20	23
Isolation TV-R	5 - 30 MHz	30			30		30	25	35	
	47 - 862 MHz						15	25	30	
	950 - 2150 MHz						15	15	25	
	2150 - 2300 MHz						18	18	20	30
Return losses		5 - 862 MHz	10							
		950 - 2300 MHz	6							
Shielding factor	VHF	30 - 300 MHz	75							
	UHF	300 - 862 MHz	65							
	SAT	950 - 2300 MHz	55							
Output connectors (UNE 20-523-79)		TV	IEC 9,5 (m)							
		SAT	IEC 9,5 (f)							
Packing dimensions (20 u.)		mm	300 x 165 x 85							
Weight (20 u.)		Kg	2							

* BSD 201 S and BSD 201 SDC model must be connected directly to tap-offs or splitter.

TV - SAT COVER

MODEL		C BSD	C BSD B
Reference		86230	86231
Colour		beige	white
Packing dimensions 20 u.		190 x 90 x 85	
Weight 20 u.		0,5	

SUPPLEMENT FOR SURFACE MOUNTING

MODEL		SS BT	SS BT B
Reference		85020	85031
Colour		beige	white
Packing dimensions 15 u.		260 x 135 x 90	
Weight 15 u.		0,5	



BSD 400 Series

Outlet sockets for cascade mounting.

APPLICATION

Suitable for renovation of inhabited housing. Serial or cascade mounting. Select the model according to its derivation losses and the required level in the installation.

CHARACTERISTICS

- IN-OUT DC pass and at the SAT output (IEC female).
- 5÷2300 MHz output in male and female IEC connectors.
- Easy installation.
- High screening factor.
- Compatible with most of the electrical devices available.



Frequency (MHz)	5	862	950	2300
TV				
SAT				

MODEL		BSD 403 DC	BSD 411 DC	BSD 416 DC	BSD 420 DC	BSD 425 DC	
Reference		86223	86224	86225	86226	86227	
Number of outputs		2					
Band coverage		MHz	5 ÷ 2300				
DC pass		IN-OUT 300 mA max SAT 300 mA max	—	Yes			
Through losses	5 - 30 MHz	dB	Final End	3,0	1,4	1,1	0,9
	47 - 862 MHz			2,5	1,2	1,0	0,9
	950 - 2150 MHz			3,0	2,2	2,1	2,0
	2150 - 2300 MHz			3,5	2,5	2,4	2,2
Derivation losses	5 - 30 MHz	dB	4,5	11,0	16,5	21,5	25,0
	47 - 862 MHz		3,5	11,0	16,5	21,5	25,0
	950 - 2150 MHz		5,5	11,0	16,5	21,5	25,0
	2150 - 2300 MHz		6	11,0	16,5	21,5	25,0
Directivity	5 - 30 MHz	dB	—	20	23	30	30
	47 - 862 MHz		—	23	23	30	30
	950 - 2150 MHz		—	18	20	20	20
	2150 - 2300 MHz		—	16	17	20	20
Isolation TV-R	5 - 30 MHz	dB	5	17	17	17	20
	47 - 862 MHz		10	20	20	20	25
	950 - 2150 MHz		12	18	18	18	20
	2150 - 2300 MHz		12	18	18	18	20
Return losses	5 - 862 MHz	dB	10			14	
	950 - 2300 MHz		10				
Shielding factor	VHF	dB	75				
	UHF		65				
	SAT		55				
Output connectors (UNE 20-523-79)		TV SAT	IEC 9,5 (m) IEC 9,5 (f)				
Packing dimensions (20 u.)		mm	300 x 105 x 85				
Weight (20 u.)		Kg	2				

TV - SAT COVER

MODEL		C BSD	C BSD B
Reference		86230	86231
Color		beige	white
Packing dimensions 20 u.	mm	190 x 90 x 85	
Weight 20 u.	Kg	0,5	

SUPPLEMENT FOR SURFACE MOUNTING

MODEL		SS BT	SS BT B
Reference		85020	85031
Color		beige	white
Packing dimensions 15 u.	mm	260 x 135 x 90	
Weight 15 u.	Kg	0,5	

CCF Series

Low loss cables for use in CATV signal distribution in community and individual MATV-SMATV installations.

APPLICATION

- CCF SAT is valid for 1st IF SAT installations.
- CCF 017 & CCF 020 is used in general distribution.
- CCF SAT H is a low smoke halogen free cable (LSHF).
- CCF TRA & CCF TRN are valid for trunk installations.

CHARACTERISTICS

- Black cables should be used for distribution where PE cables are to be exposed to sunlight.



MODEL	CCF TRN	CCF TRA	CCF SAT CCF SAT N	CCF SAT H	CCF 019 CCF 019 N	CCF 017	CCF 020	CCF 017 A	
Internal conductor									
Material	Cu							Cu steel	
Diameter mm	1,6	1,63	1,1	1,1	1	1,15	1	1,2	
Resistance Ω/Km	8,57	9	20	19	23	20	22	80	
Dielectric									
Material	PE								
Diameter mm	7,2	7,2	4,8	4,8	4,8	4,9	4,6	4,8	
External conductor									
Material sheet	Cu / Pet	Al / Pet / Al	Cu / Pet			Al / Pet / Al			
Material net	Cu	CuSn	Cu			Al			
Resistance Ω/Km	8,3	8	22	21	30	33	46	35	
External conductor									
Diameter mm	10,2	10,1	6,7	6,8	6,8	6,9	6,6	6,7	
Min. curvature radius mm	80		40						
Attenuation / 100 m:	50 MHz	2,7	3,1	4,8	4,4	4,7	4,8	4,5	4,2
	100 MHz	3,8	4,4	6,5	6,2	6,5	6,4	6,6	6,2
	200 MHz	5,4	6,3	8,6	8,7	8,8	8,5	8,6	8,7
	300 MHz	6,6	7,7	10	10,7	10,3	9,8	10,2	9,9
	470 MHz	8,3	9,6	12,5	13,4	12,8	12,3	12,7	12,4
	600 MHz	10,2	10,8	14,9	15,1	14,9	14,5	15,1	14,5
	860 MHz	12,3	13	17,9	18,1	17,8	17,4	18,1	17,2
	1000 MHz	13,5	14	22,2	19,5	20	22,3	19,4	22
	1350 MHz	16,4	16,2	22,4	22,7	21,6	22,2	21	23,1
	1500 MHz	17,3	17,1	23,5	23,9	22,6	23,3	24,4	24,1
	1750 MHz	18,7	18,5	25,7	25,8	26,4	25,8	26,4	25,3
	2050 MHz	18,9	20	27,6	27,9	29,5	28,2	29,3	27,5
	2150 MHz	19,8	20,5	28,9	28,6	30,9	29,6	30,7	28,2
Shielding efficiency	5-1000 MHz	90	80	75			70		
	1000-2150 MHz	85	75	70			65		
Capacity pF/m	54			55					
Impedance Ω	75								
Reflection point dB	< −20								

MODEL	CCF TRN	CCF TRA	CCF SAT		CCF SAT N		CCF SAT H		CCF 019		CCF 019 N	CCF 017	CCF 020	CCF 017 A
Reference	84121	84111	84102	84123	84104	84105	84112	84133	84019	84119	84020	84127	84129	84113
Coil length	250	250	250	100/500	250	100	250	100/500	250	100/500	250	100/500	100/500	100/500
Coil support	wood	wood	cardboard	cardboard	cardboard	cardboard	plastic	cardboard	cardboard	cardboard	cardboard	cardboard	cardboard	cardboard
External conductor	PE negro	PE negro	PVC blanco	PVC blanco	PE negro	PE negro	LSFH blanco	LSFH blanco	PVC blanco	PVC blanco	PE negro	PVC blanco	PVC blanco	PVC blanco
Packing dimensions	400 x 400 x 380	360 x 360 x 350	360 x 360 x 180	270 x 270 x 660	360 x 360 x 180	270 x 270 x 660	265 x 265 x 300	270 x 270 x 660	360 x 360 x 180	270 x 270 x 660	360 x 360 x 180	270 x 270 x 660	270 x 270 x 660	270 x 270 x 660
Weight	26,8	25,5	12	5/25	10	5/25	10,5	5,5/28	12	5/25	10	4,5/23	4,5/23	4/20



DISTRIBUTION



accessorie



A whole range of accessories to improve the quality of the installations, such as combiners, attenuators, filters, ...

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ACCESSORIES

F (m) CONNECTOR

F(m) connector for cable (outside diameter 6,8 mm).

TYPE OF CABLE	MODEL	REF.
CCF 017/019/020/SAT or similar	CNR MF	84012



SHIELDED CONNECTOR

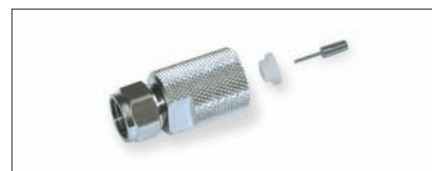
TYPE OF CONNECTOR	MODEL	REF.
IEC 9,5 (m)	CNR MI	84028
IEC 9,5 (f)	CNR HI	84029



CONNECTOR

F(m) connector for trunk cable.

TYPE OF CABLE	MODEL	REF.
CCF TRN / CCF TRA	CNR F TRN	84014



BROAD BAND AMPLIFIER (UHF)

Frequency band: 470 ÷ 862 MHz
Gain: 12 dB
Flatness: 2 dB
Noise figure: 3,5 dB
Power supply: 24 V ± 5%
Consumption: <50 mA
Output level: 105 dBμV

TYPE OF CONNECTOR	MODEL	REF.
F(f)-F(m)	ABF 012	85053



1st IF SAT LINE AMPLIFIER

Frequency band: 950÷2300 MHz
Gain: 15 ÷ 18 dB
Noise figure: 7 dB
Maximum output level (- 35 dB) 109 dBμV

TYPE OF CONNECTOR	MODEL	REF.
F (f)-F (m)	AL 46	86246



ADJUSTABLE ATTENUATOR

Frequency band: 47 ÷ 862 MHz
AT 323: Regulation margin: 3 - 23 dB
AT 020: Impedance: 75 Ohm.
Regulation margin: 0 - 23 dB

TYPE OF CONNECTOR	MODEL	REF.
IEC (f)-IEC (m)	AT 323	85005
IEC (f)-IEC (m)	AT 020	85007

AT 323



AT 020



ADJUSTABLE ATTENUATOR

Frequency band: 5 to 2150 MHz
Return losses: -10 dB
Through losses: 0,5 to 20 dB
DC pass (0-22 KHz): 1A

TYPE OF CONNECTOR	MODEL	REF.
F(f)-F(m)	ATF 020	85050





ACCESSORIES

FIX ATTENUATOR

Frequency band: 5 to 2300 MHz
Losses: 10 dB
Return losses: 10 dB
Impedance: 75 Ohm.
DC block

TYPE OF CONNECTOR	MODEL	REF.
F (m)-F (f)	FAT 010	85041



75 Ω F LOAD

Coaxial resistive load for loading open connectors.
(SCM 5000, 6000 and 7000 series).

TYPE OF CONNECTOR	MODEL	REF.
F (m)	CX 75 F	84011



TWO WAY SPLITTER COMBINER

Band coverage: 5 ÷ 862 MHz
Impedance: 75 Ω
Combining losses: 4 dB
Output isolation: 22 dB

TYPE OF CONNECTOR	MODEL	REF.
2 x IEC(f) - 1 x IEC (m)	MB 021	85001



TWO WAY SPLITTER COMBINER

Band coverage: 5 ÷ 862 MHz
Impedance: 75 Ω
Combining losses: 4 dB
Output isolation: 22 dB

TYPE OF CONNECTOR	MODEL	REF.
2 x IEC(m) - 1 x IEC (f)	DB 012	85002



TWO WAY SPLITTER COMBINER

Band coverage: 5 ÷ 862 MHz
Impedance: 75 Ω
Combining losses: 4 dB
Output isolation: 22 dB

TYPE OF CONNECTOR	MODEL	REF.
F (f)	MD 012F	85028



75 Ω F-F COAXIAL BRIDGE

Rigid 75 Ω coaxial bridge for splitting or combining RF signals.

Raster: 47,7 mm. (Ref. 8314) Serie 8000
Raster: 48 mm. (Ref. 84031 y 84003)

Multi-processing system
(Ref. 84034)
Nexum system

TYPE OF CONNECTOR	MODEL	REF.
F (m) - F (m)	PMD 8000	83814
F (m) - F (m)	PMD FF	84031
F (m) - F (m)	PMD FFN	84034

PMD FF



PMD FF N



“F” ADAPTOR

Female-female F adapter (5 ÷ 2300 MHz).

TYPE OF CONNECTOR	MODEL	REF.
F(f)-F(f)	ADF HHS	84016



ACCESSORIES

SUPPLY INJECTOR

Frequency band: 5 to 2150 MHz
Return losses: -10 dB
Through losses: 0,5 dB
DC pass: 1 A

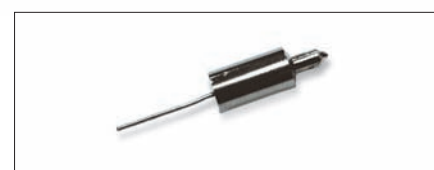
TYPE OF CONNECTOR	MODEL	REF.
F(f)-F(m)	ICF 001	85051



LOADING RESISTOR

75 Ω resistor suitable for loading unused inputs/outputs.

TYPE OF CONNECTOR	MODEL	REF.
—	RC 075	85010



DOUBLE TRAP FILTER

Frequency band: 470 to 862 MHz
In band return losses (out of notch filter): >10 dB
Rejection at central frequency (Fc): 18 dB at 470 MHz / 10 dB at 862 MHz
Rejection at $F_c \pm 12$ MHz: 2 dB
In band through losses: <1 dB
DC pass: 1 A

TYPE OF CONNECTOR	MODEL	REF.
F(f)-F(m)	FTF 245	85052



HIGH PASS FILTER

Passage band: 470 to 1000 MHz
Insertion losses: 1,5 dB
Return losses: 10 dB
Impedance: 75 Ohm.

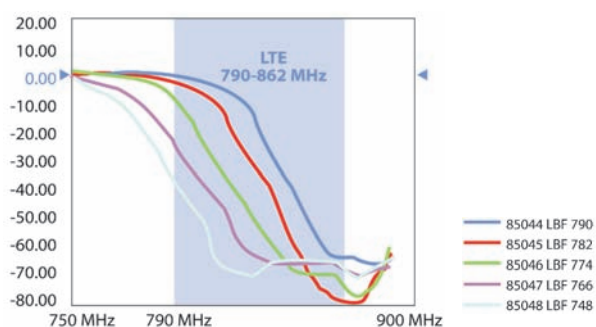
TYPE OF CONNECTOR	MODEL	REF.
F (m)-F (f)	FPA 470	85042



LTE PROTECTION FILTERS

LBF Series

Low pass filters for protection againsts interfering LTE signals.

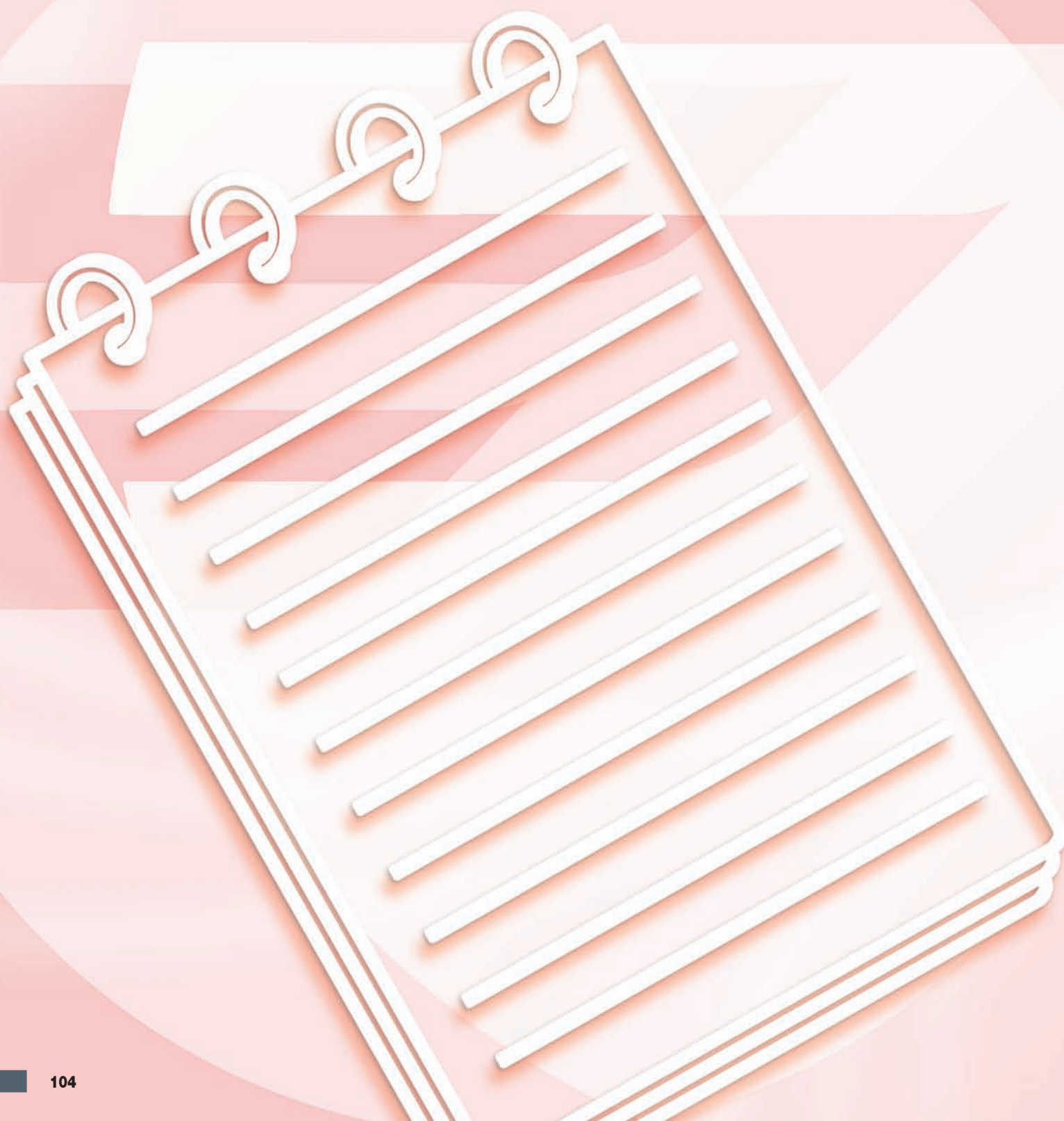


MODEL	LBF 790	LBF 782	LBF 774	LBF 766	LBF 758	
Reference	85044	85045	85046	85047	85048	
Pass Band	MHz	5÷790	5÷782	5÷774	5÷766	5÷758
Rejected Band	MHz	822÷2200	814÷2200	806÷2200	798÷2200	790÷2200
Rejection	dB	≥ 45				
Through loss	dB	≤ 1,5				
Return loss	dB	≥ 12				
Type of connector	F(m)-F(f)					





technical notes



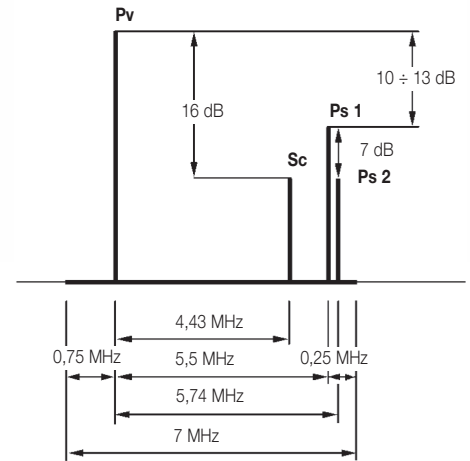


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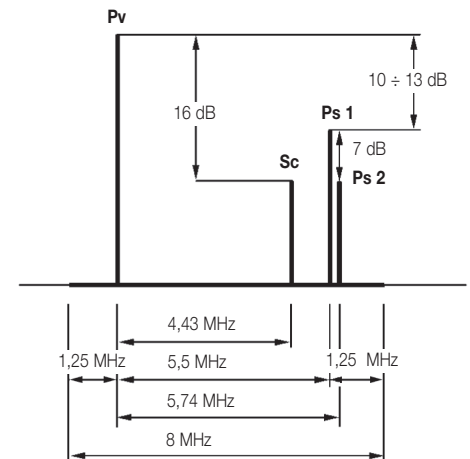
CHANNEL DEFINITION

TV BAND	CHANNEL	CHANNEL LIMITS	PICTURE CARRIER	AUDIO CARRIER
		MHz	MHz	MHz
Standard B	Italy			
BI	A	52,5 - 59,5	53,75	59,25
	B	61 - 68	62,25	67,75
B (II)	C	81 - 88	82,25	87,75
B (III)	D	174 - 181	175,25	180,75
	E	182,5 - 189,5	183,75	189,25
	F	191 - 198	192,25	197,75
	G	200 - 207	201,25	206,75
	H	209 - 216	210,25	215,75
	H1	216 - 223	217,25	222,75
H2	223 - 230	224,25	229,75	
Standard D	OIRT			
BI	I	48,5 - 56,5	49,75	56,25
	II	58 - 66	59,25	65,75
	III	76 - 84	77,25	83,75
B (II)	IV	84 - 92	85,25	91,75
	V	92 - 100	93,25	99,75
BIII	VI	174 - 182	175,25	181,75
	VI	182 - 190	183,25	189,75
	VIII	190 - 198	191,25	197,75
	IX	198 - 206	199,25	205,75
	X	206 - 214	207,25	213,75
	XI	214 - 222	215,25	221,75
XII	222 - 230	223,25	229,75	
Standard I	Ireland			
BI	A	44,5 - 52,5	45,75	51,75
	B	52,5 - 60,5	53,75	59,75
	C	60,5 - 68,5	61,75	67,75
BIII	D	174 - 182	175,25	181,25
	E	182 - 190	183,25	189,25
	F	190 - 198	191,25	197,25
	G	198 - 206	199,25	205,25
	H	206 - 214	207,25	213,25
	I	214 - 222	215,25	221,25
	J	222 - 230	223,25	229,2
Standard L	France			
BI	2	49,00 - 57,00	49,25	55,75
	3	53,75 - 61,75	54,00	60,50
	4	57,00 - 65,00	57,25	63,75
BIII	5	174,75 - 182,75	176,00	182,50
	6	182,75 - 190,75	184,00	190,50
	7	190,75 - 198,75	192,00	198,50
	8	198,75 - 206,75	200,00	206,50
	9	206,75 - 214,75	208,00	214,50
	10	214,75 - 222,75	216,00	222,50

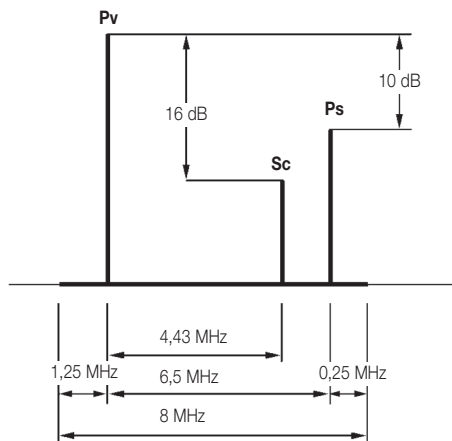
STANDARD B



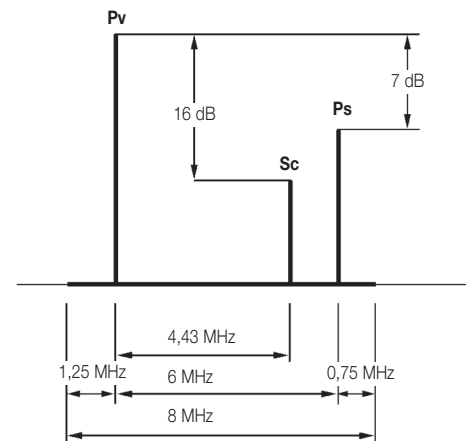
STANDARD G



STANDARD L



STANDARD I



CCIR STANDARDS

CCIR-Standard	B	D	G	H	I	K	L	M	N
Number of lines	625	625	625	625	625	625	625	525	625
Channel Bandwidth	7	8	8	8	8	8	8	6	6
Video Bandwidth (MHz)	5	6	5	5	5,5	6	6	4,2	4,2
Video sound spacing	+5,5	+6,5	+5,5	+5,5	+6	+6,5	+6,5	+4,5	+4,5
Vestigial side band (MHz)	0,75	0,75	1,25	1,25	1,25	0,75	1,25	0,75	0,75
Picture modulation	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Pos.	Neg.	Neg.
Sound modulation	FM	FM	FM	FM	FM	FM	AM	FM	FM

COUNTRY	VHF	UHF	TV STANDARD
Algeria	B	H	PAL
Argentina	N	N	PAL-N
Australia	B	H	PAL
Austria	B	G	PAL
Bahrein	B	G	PAL
Belgium	B	H	PAL
Bulgary	D	K	SECAM
China	D	K	PAL
Cyprus	B	G	PAL/SECAM
Czech Rep.	D	K	SECAM
Denmark	B	G	PAL
Egypt	B	G; H	SECAM
Finland	B	G	PAL
France	L	L	SECAM
Germany	B	G	PAL
Gibraltar	B	G	PAL
Great Britain	I	I	PAL
Greece	B	G	SECAM
Holland	B	G	PAL
Hong Kong	I	I	PAL
Hungary	D	K	SECAM
Iceland	B	G	PAL
India	B	—	PAL
Indonesia	B	—	PAL
Irak	B	—	SECAM
Iran	B	G	SECAM
Ireland	I	I	PAL
Israel	B	G	PAL
Italy	B	G	PAL
Japan	M	M	NTSC
Jordan	B	G	PAL
Korea	M	—	NTSC
Kuwait	B	G	PAL
Lebanon	B	—	SECAM
Libya	B	H	SECAM
Luxembourg	B/L	G/L	SECAM/PAL
Malaysia	B	G	PAL

COUNTRY	VHF	UHF	TV STANDARD
Malta	B	H	PAL
Mexico	M	M	NTSC
Monaco	E	L/G	SECAM/PAL
Morocco	B	H	SECAM
Nigeria	B	G	PAL
Norway	B	G	PAL
Oman	B	G	PAL
Pakistan	B	G	PAL
Philippines	M	M	NTSC
Poland	D	K	SECAM
Portugal	B	G	PAL
Quatar	B	G	PAL
Romania	D	K	PAL
Saudi Arabia	B	G	PAL/SECAM
Singapore	B	G	PAL
Southafrica	I	I	PAL
Spain	B	G	PAL
Sri Lanka	B	—	PAL
Sweden	B	G	PAL
Switzerland	B	G	PAL
Syria	B	—	SECAM
Thailand	B/M	—	PAL
Tunisia	B	G	SECAM
Turkey	B	G	PAL
U.A.E.	B	G	PAL
U.S.A.	M	M	NTSC
Yemen	B	—	PAL
Yugoslavia	B	G	PAL

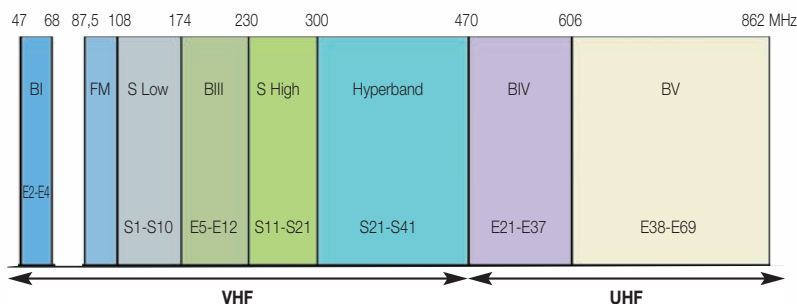
CCIR = Comité Consultatif International des Radiocommunications

PAL = Phase Alternation Line

SECAM = Séquentielle à mémoire

NTSC = National Television System Committee

FREQUENCY ALLOCATIONS



CHANNELS ACCORDING TO CCIR, B, G, I (EUROPE) STANDARDS

CHANNEL		CHANNEL BANDWIDTH	VIDEO (B)	AUDIO (B)	CENTRAL FREQ.
		MHz	MHz	MHz	MHz
VHF BI	2	47...54	48,25	53,75	50,5
	3	54...61	55,25	60,75	57,5
	4	61...68	62,25	67,75	64,5
VHF Bs (low)	S1	104...111	105,25	110,75	107,5
	S2	111...118	112,25	117,75	114,5
	S3	118...125	119,25	124,75	121,5
	S4	125...132	126,25	131,75	128,5
	S5	132...139	133,25	138,75	135,5
	S6	139...146	140,25	145,75	142,5
	S7	146...153	147,25	152,75	149,5
	S8	153...160	154,25	159,75	156,5
	S9	160...167	161,25	166,75	163,5
	S10	167...174	168,25	173,75	170,5
VHF BIII	5	174...181	175,25	180,75	177,5
	6	181...188	182,25	187,75	184,5
	7	188...195	189,25	194,75	191,5
	8	195...202	196,25	201,75	198,5
	9	202...209	203,25	208,75	205,5
	10	209...216	210,25	215,75	212,5
	11	216...223	217,25	222,75	219,5
	12	223...230	224,25	229,75	226,5
VHF Bs (high)	S11	230...237	231,25	236,75	233,5
	S12	237...244	238,25	243,75	240,5
	S13	244...251	245,25	250,75	247,5
	S14	251...258	252,25	257,75	254,5
	S15	258...265	259,25	264,75	261,5
	S16	265...272	266,25	271,75	268,5
	S17	272...279	273,25	278,75	275,5
	S18	279...286	280,25	285,75	282,5
	S19	286...293	287,25	292,75	289,5
	S20	293...300	294,25	299,75	296,5
VHF Hyperband	S21	302...310	303,25	308,75	306
	S22	310...318	311,25	316,75	314
	S23	318...326	319,25	324,75	322
	S24	326...334	327,25	332,75	330
	S25	334...342	335,25	340,75	338
	S26	342...350	343,25	348,75	346
	S27	350...358	351,25	356,75	354
	S28	358...366	359,25	364,75	362
	S29	366...374	367,25	372,75	370
	S30	374...382	375,25	380,75	378
	S31	382...390	383,25	388,75	386
	S32	390...398	391,25	396,75	394
	S33	398...406	399,25	404,75	402
	S34	406...414	407,25	412,75	410
	S35	414...422	415,25	420,75	418
	S36	422...430	423,25	428,75	426
	S37	430...438	431,25	436,75	434
	S38	438...446	439,25	444,75	442
	S39	446...454	447,25	452,75	450
	S40	454...462	455,25	460,75	458
	S41	462...470	463,25	468,75	466

CHANNEL		CHANNEL BANDWIDTH	VIDEO G, I	AUDIO G I	CENTRAL FREQ.
		MHz	MHz	MHz	MHz
UHF	21	470...478	471,25	476,75	477,25
	22	478...486	479,25	484,75	485,25
	23	486...494	487,25	492,75	493,25
	24	494...502	495,25	500,75	501,25
	25	502...510	503,25	508,75	509,25
	26	510...518	511,25	516,75	517,25
	27	518...526	519,25	524,75	525,25
	28	526...534	527,25	532,75	533,25
	29	534...542	535,25	540,75	541,25
	30	542...550	543,25	548,75	549,25
	31	550...558	551,25	556,75	557,25
	32	558...566	559,25	564,75	565,25
	33	566...574	567,25	572,75	573,25
	34	574...582	575,25	580,75	581,25
	35	582...590	583,25	588,75	589,25
	36	590...598	591,25	596,75	597,25
	37	598...606	599,25	604,75	605,25
	38	606...614	607,25	612,75	613,25
	39	614...622	615,25	620,75	621,25
	40	622...630	623,25	628,75	629,25
	41	630...638	631,25	636,75	637,25
	42	638...646	639,25	644,75	645,25
	43	646...654	647,25	652,75	653,25
	44	654...662	655,25	660,75	661,25
	45	662...670	663,25	668,75	669,25
	46	670...678	671,25	676,75	677,25
	47	678...686	679,25	684,75	685,25
	48	686...694	687,25	692,75	693,25
	49	694...702	695,25	700,75	701,25
	50	702...710	703,25	708,75	709,25
	51	710...718	711,25	716,75	717,25
	52	718...726	719,25	724,75	725,25
	53	726...734	727,25	732,75	733,25
	54	734...742	735,25	740,75	741,25
	55	742...750	743,25	748,75	749,25
	56	750...758	751,25	756,75	757,25
	57	758...766	759,25	764,75	765,25
	58	766...774	767,25	772,75	773,25
	59	774...782	775,25	780,75	781,25
	60	782...790	783,25	788,75	789,25
	61	790...798	791,25	796,75	797,25
	62	798...806	799,25	804,75	805,25
	63	806...814	807,25	812,75	813,25
	64	814...822	815,25	820,75	821,25
	65	822...830	823,25	828,75	829,25
	66	830...838	831,25	836,75	837,25
	67	838...846	839,25	844,75	845,25
	68	846...854	847,25	852,75	853,25
	69	854...862	855,25	860,75	861,25

CONVERSION TABLE

μV 75 Ω	dB μV	dBm
1	0	-109
1,5	3,5	-105,5
2	6	-103
2,5	8,0	-101
3	9,5	-99,5
3,5	11	-98
4	12	-97
4,5	13	-96
5	14	-95
6	15,5	-93,5
7	17	-92
8	18	-91
9	19	-90
10	20	-89
15	23,5	-85,5
20	26	-83
25	28	-81
30	29,5	-79,5
35	31	-78
40	32	-77
45	33	-76
50	34	-75
60	35,5	-73,5
70	37	-72
80	38	-71
90	39	-70
100	40	-69
150	43,5	-66,5
200	46	-63
250	48	-61
300	49,5	-59,5
350	51	-58
400	52	-57
450	53	-56
500	54	-55
600	55,5	-53,5
700	57	-52
800	58	-51
900	59	-50

mV 75 Ω	dB μV	dBm
1	60	-49
1,5	63,5	-45,5
2	66	-43
2,5	68	-41
3	69,5	-39,5
3,5	71	-38
4	72	-37
4,5	73	-36
5	74	-35
6	75,5	-33,5
7	77	-32
8	78	-31
9	79	-30
10	80	-29
15	83,5	-25,5
20	86	-23
25	88	-21
30	89,5	-19,5
35	91	-18
40	92	-17
45	93	-16
50	94	-15
60	95,5	-13,5
70	97	-12
80	98	-11
90	99	-10
100	100	-9
150	103,5	-5,5
200	106	-3
250	108	-1
300	109,5	+0,5
350	111	+2
400	112	+3
450	113	+4
500	114	+5
600	115,5	+6,5
700	117	+8
800	118	+9
900	119	+10
1.000	120	+11

V 75 Ω	dB μV	dBm
1	120	+11
1,5	123,5	+14,5
2	126	+17
2,5	128	+19
3	129,5	+20,5
3,5	131	+22
4	132	+23
4,5	133	+24
5	134	+25
6	135,5	+26,5
7	137	+28
8	138	+29
9	139	+30
10	140	+31

dB ratio /factor		
x(-)	dB	(+) x
1,0	0,0	1,0
0,94	0,5	1,06
0,89	1	1,12
0,84	1,5	1,19
0,8	2	1,25
0,75	2,5	1,33
0,71	3	1,41
0,67	3,5	1,5
0,63	4	1,6
0,6	4,5	1,67
0,56	5	1,78
0,53	5,5	1,88
0,5	6	2,0
0,47	6,5	2,12
0,45	7	2,24
0,42	7,5	2,37
0,4	8	2,5
0,38	8,5	2,66
0,35	9	2,82
0,33	9,5	3,0
0,32	10	3,16
0,28	11	3,55
0,25	12	4,0
0,22	13	4,5
0,2	14	5,0
0,18	15	5,62
0,16	16	6,3
0,14	17	7,1
0,125	18	8,0
0,11	19	8,9
0,10	20	10,0
0,09	21	11,2
0,08	22	12,5
0,071	23	14,1
0,063	24	16,0
0,056	25	17,8
0,05	26	20,0
0,045	27	22,4
0,04	28	25,0
0,035	29	28,2
0,032	30	31,6
0,028	31	35,5
0,025	32	40
0,022	33	45
0,02	34	50
0,018	35	56
0,016	36	63
0,014	37	71
0,0125	38	80
0,011	39	89
0,010	40	100
0,0056	45	178
0,0032	50	316
0,0018	55	562
0,001	60	1.000

BROAD BAND AMPLIFIERS

Reduction of the output level for broadband amplifiers according to the number of channels.

Nr. of digital channels	2	4	5	6	8	16	24	32	64
Reduction of the output level (Rc) dB	-3	-6	-7	-8	-9	-12	-14	-15	-18

Nr. of analogue channels	2	4	5	6	8	16	24	32	64
Reduction of the output level (Rc) dB	0	-3	-4	-5	-6	-9	-11	-12	-15

CASCADE AMPLIFICATION

Reduction of output level for broadband amplifiers according to the number of cascade amplifiers in the system.

Nr. of amplifiers	—	2	3	4	5	6	7
Reduction of output level (RA) dB	0	3	4,8	6	7	7,8	8,5

The output level of the amplifiers must be reduced according to the table above to keep the intermodulation products at the same level.

$N_o = N_s - R_c - R_a$
 N_o = Max. operating level.
 N_s = Output level (DIN 45004 B, IM3 -60 dB).
 R_c = Reduction by nr. of channels.
 R_a = Reduction by nr. of amplifiers







FAGOR 
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